ASX Trade FIX
Drop Copy
Conformance Process

Version 1.0 | February 2025

Contents

1. Introduction

The ASX application conformance test process is designed to help protect market participants from any erroneous application behaviour that may be disruptive to the market due to non-conformance.

The conformance process applies to any application that connects to the ASX Production environment for Drop Copy services.

All customer applications must pass the ASX Conformance process prior to accessing the Production market for receipt of trade and order data.

Except for certain mandatory functions, customers are required to complete only the conformance test scenarios which relate to the functionality they will use in the Production environment. All other test scenarios may be omitted.

1.1. Purpose

The purpose of this document is to provide an overview of the ASX Trade FIX Drop Copy Conformance test and set expectations regarding conduct and expected results.

1.2. Readership

This document outlines the test scenarios customers need to pass to certify their Drop Copy related software applications.

Technical staff within ASX Trade participants and information vendors and other market participants that connect directly to the ASX Trade Platform are expected to read this document and understand the requirements of this process.

1.3. Document history

Issue	Date	Description
1.0	February 2025	First release of document

1.4. Enquiries

Please contact CTS@asx.com.au or your Technical Account Manager if you have any questions relating to this document.

2. ASX Conformance Process

The ASX conformance process provides guidelines for customers to ensure their software conforms to ASX Trade operating rules and technical specifications.

ASX expects customers to become conversant with the ASX development platform and develop their applications to a state of readiness for conformance testing. At this point they can contact ASX to schedule a date and time to undertake the conformance test. ASX requires customers to have finalised their software, meaning that said software is in a production-ready state, before booking the test.

The conformance process is as follows.

> Customers must submit their conformance checklist to CTS and clearly indicate the following:

- The application name and version
- The usernames being utilized to perform the scenarios
- The test scenarios their application will not complete along with the reason
- Start and end time of their self-test

> Customers must then to advise CTS once they have completed performing their self-test scenarios; CTS will proceed to validate the outcome of the self-test
> Once the self-test scenarios are validated as complete by CTS, customers can go on to perform the assisted test scenarios live on a call by a member of the CTS team. These assisted test slots are of 30 minutes duration, where if not completed inside this window customers will need to book an additional slot
> Upon completion of the assisted testing, CTS will then validate the results of the overall conformance test

2.1. When to Repeat Conformance Testing

While it is encouraged to perform regular testing, customers are <u>required</u> to perform software conformance with the ASX when:

> Software is modified in any way that may affect or directly impact ASX connectivity or messaging
> Additional ASX facing functionality is added to an already conformed application
> Software is recompiled for a new operating system
> ASX upgrades or changes its production environment and deems the change mandatory
> During extended periods of absence when the software is not connected to ASX
> Erroneous or disruptive behaviour is identified in the Production Environment
> Upon specific request from the ASX

ASX software conformance testing is optional but recommended when:

> Customer software is recompiled on the same operating system with minor changes, or new builds which have no assumed impact to ASX connectivity or messaging
> Independent Software Vendor (ISV) applications have passed conformance testing and the same software and version is to be used by new or existing customers of the ISV on new customer infrastructure

2.2. Non-Compliant software

Warning:
ASX reserves the right to block access to the production system by non-compliant software. ASX will require successful completion of a conformance test prior to re-connection.

2.3. Conformance Testing

To successfully complete Application Conformance Testing the customer's software application needs to have established a connection to the ASX Trade Testing Environment (CDE/CDE+). These platforms simulate the ASX production environment and is designed to give a "Production-like" platform to develop and test against.

2.4. Prior to Conformance

Customers should ensure they have read and understand the specification documents pertaining to the interfaces they are developing against.

Customers should then discuss the intended functionality of their applications with their TAMs to ensure all steps were followed and the process is fully understood.

The CTS team will be available to assist customers in completing their tests, if required.

Customers must submit the application conformance checklist as provided by the CTS team with all functions not supported by the software clearly marked.

The checklist must be sent to CTS@asx.com.au prior to the test to validate the successfully attempted test scenarios.

2.5. Considerations for Software Vendors

All Participants are expected to create and manage orders/trade reports under their own Participant ID (PID) as part of the FIX Drop Copy conformance process.

The following sections require order/trade reporting management functionality:
> 3.3 – Order Activity (Execution Reports)
> 3.4 – Trade Confirmation (Trade Capture Reports)
> 3.5 – Trade Reporting (Trade Capture Reports)
> 4.5 – Trade Cancellation (Trade Capture Reports)
> 4.6 – Unsolicited Cancel

Software Vendors without the ability to create and manage orders / trade reports should reach out to CTS prior to conformance to arrange assistance for the above scenarios.

2.6. Expectations during Conformance

> Customer must maintain a stable connection
> Customers should refer to the ASX Operating Rules for guidelines on acceptable market behaviour

    • Adherence to these guidelines is required throughout all customer application conformance testing
    • Failure to comply with these guidelines will result in failure of the conformance test

2.7. Categories

Mandatory – must be attempted and passed.

Supported Functionality – this case is conditionally mandatory if you intend to support this functionality in Production.

Not Supported – on the checklist, Supported Functionality scenarios can be set to *Not Supported* under the following conditions:

   • When the functionality will not be used in Production.
   • The conformance checklist clearly states the reason it is Not Supported

3. Self-testing Conformance Scenarios

The customer is responsible for completing this section of the conformance test. All activities performed during this segment of the conformance test are logged. On completion of this segment of the conformance test, ASX will review logs to ensure that applicable test scenarios were successfully completed by the customer application.

3.1. Session

The following set of test scenarios define how applications must connect and disconnect from the environment to meet ASX conformance requirements.

3.1.1 Logon

Category	Mandatory	
Description	The application must perform a standard Logon (35=A). The application must sustain connectivity and receive a successful connection acknowledgement	
	The application must pass this test to progress to the next phase of functionality testing	
Requirements	It is expected that the tester will have confirmed network connectivity to the test environment prior to commencement of the conformance test	
	Customers must also ensure that a reasonable heartbeat interval greater than 10 seconds and no higher than 60 seconds in their Logon message. Recommended heartbeat interval is 30 seconds	
#	Test Scenarios	Expected Results
1.	Establish a connection and logon using the Drop Copy user	Application receives an acknowledgment with Message Type as (35=A) confirming a successful log on, where SessionStatus (tag 1409) = 0 (Session Active). Application will then need to maintain a heartbeat

3.1.2 Logout

Category	Mandatory	
Description	The purpose of this test is to ensure that the application can log out gracefully	
Requirements		
#	Test Scenarios	Expected Results
1.	Log out gracefully and disconnect from the session	Application receives a Logout (35=5) message confirming a graceful log off

3.1.3 Password Change

Category	Mandatory
Description	The purpose of this test is to ensure that the application can perform a password change as part of a logon to demonstrate to ASX that the application can manage its own password in day-to-day operations The application must pass this test to progress to the next phase of functionality testing
Requirements	Applications must adhere to the ASX Password policy, outlined in ASX Trade FIX Drop Copy specification under Password Complexity ASX Trade application passwords expire every 90 days, and must be changed by the application prior to this or it will not be able to logon to the Exchange

#	Test Scenarios	Expected Results
1.	Application should establish a connection and send a Logon (35=A) message where NewPassword (tag 925) is the new application password that matches the ASX password policy	Application should receive an acknowledgment with Message Type as (35=A) confirming a successful Password change, where SessionStatus (tag 1409) = 1 (Session Password Changed)

3.1.4 Sequence Reset

Category	Supported Functionality
Description	The purpose of this test is to ensure applications can reset their own message sequence numbers or gap fill messages
Requirements	Participants should send a Sequence Reset message with a value higher than their current sequence number

#	Test Scenarios	Expected Results
1.	Application performs an intra-day logon (35=A) message	A logon acknowledgement is sent by the exchange, confirming the session is active Application will then need to maintain a heartbeat
2.	After ensuring that ASX and customer application is exchanging heartbeats, applications should send a Sequence Reset message (35=4)	The next inbound message should have the MsgSeqNum (tag 34) as the value specified in NewSeqNo (tag 36) that was set in the prior Sequence Reset message Application will then need to maintain the Sequence numbers

3.2. Reference Data

3.2.1 Market Definition Request

Category	Supported Functionality	
Description	The purpose of this test is to ensure the application can perform a Market Definition Request message	
Requirements		
#	Test Scenarios	Expected Results
1.	Application sends a BT message with the mandatory tags. Tags 1301 and 1300 are optional	Application receives BU messages that returns the correct market structure information of the specified market or all available market structure information

3.2.2 Trading Session List Request

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can perform a Trading Session List Request message	
Requirements		
#	Test Scenarios	Expected Results
1.	Application sends a BI message with SubscriptionRequestType (tag 263) = 0 (Snapshot). TradSesReqID (tag 335) must be present and unique	Application receives the BJ message that returns the list of trading sessions available

3.2.3   Security List Request

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can receive a snapshot and/or unsubscribe to Security List updates	
Requirements		
#	Test Scenarios	Expected Results
1.	Snapshot request: Application sends SecurityListRequest (x) message with SecurityListRequestType (tag 559) = 0 (individual instruments) and SubscriptionRequestType (tag 263) = 0 (Snapshot)	Application receives SecurityList (y) message with the Snapshot about the individual instrument as requested in the SecurityListRequest (x) message
2.	Unsubscribe to updates: A) Application needs to subscribe to the updates by sending SecurityListRequest (x) message with SecurityListRequestType (tag 559) = 5 (MarketID + MarketSegmentID) with SubscriptionRequestType (263) = 1 (Snapshot + Updates (Subscribe)) B) Application needs to unsubscribe to the updates by sending SecurityListRequest (x) message with SecurityListRequestType (tag 559) = 5 (MarketID + MarketSegmentID) and SubscriptionRequestType (263) = 2 (Disable previous Snapshot + Update Request (Unsubscribe)) SecurityReqID (tag 320) should be equal to the same value used in the initial subscription	A) Application receives SecurityList (y) message with the Snapshot of the instruments matching MarketID and MarketSegmentID as requested in the SecurityListRequest (x) message and should also receive subsequent updates to the instrument belonging to the same MarketID and MarketSegmentID B) Application does not receive SecurityList (y) message Any update to the instruments belonging to the MarketID and MarketSegmentID specified in SecurityListRequest (x) message will not be received

3.3.   Order Activity (Execution Reports)

3.3.1   New Order

Category	Supported Functionality	
Description	The purpose of this test is to ensure the application can successfully receive an Execution Report with identifiers that can be used to track a new order	
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends an order for either the buy or sell side	The application will receive an ExecutionReport (35=8) with OrdStatus (tag 39) = 0 (New)

3.3.2   Order Modification

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can successfully receive an acknowledgement after an order modification is made to an existing order	
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends an order modification against a previously entered, active order	The application will receive an ExecutionReport (35=8) indicating successful order modification ExecType (tag 150) = 5 (Replaced)

3.3.3   Order Fill (Partial/Full)

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can successfully receive an execution report after a partial or full fill on an existing order	
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends an opposing order to either partially or completely fill the previously modified order	The application receives an ExecutionReport (35=8) with OrdStatus (tag 39) = 1 (partially filled) or 2 (filled)

3.3.4   Order Cancellation

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can receive an execution report following a successful cancellation of a participants own order	
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends an order cancellation on a previously entered order	The application receives an ExecutionReport (35=8) with ExecType (tag 150) = 4 (Cancelled)

3.4.   Trade Confirmation (Trade Capture Reports)

3.4.1   Matched Trade

Category	Supported Functionality	
Description	The purpose of this test is to ensure the application receives a Trade Capture Report once an existing order is filled	
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends a new order for either buy/sell side	Application subscribed to Execution Reports + Trade Capture reports will receive ExecutionReport (35=8) with a successful OrdStatus (tag 39) = 0 (New)
2.	The participant sends another order for the opposing side to trigger trade execution	Application receives Trade Capture Report (35=AE) for the matched trade

3.5.   Trade Reporting (Trade Capture Reports)

3.5.1   Trade Capture Report for Single Instrument

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application receives a Trade Capture Report for a Trade Report with single instrument	
Requirements	All participants are expected to create and manage trade reports under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	**Test Scenarios**	**Expected Results**
1.	The participant sends a Single-Sided Trade Report for either buy/sell side	

| 2. | The participant sends a Single-Sided Trade Report message for the opposing side | Application receives a Trade Capture Report (35=AE) once the Trade report gets matched |

3.5.2 Trade Capture Report for Multiple Instruments

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application receives a Trade Capture Report for a Trade report with multiple instruments	
Requirements	All participants are expected to create and manage trade reports under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	Test Scenarios	Expected Results
1.	The participant sends a Two-Sided Trade Report	Application receives a Trade Capture Report (35=AE) once the Trade Report is accepted after submission

3.5.3 Trade Capture Report for Initial Trade Notification

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application receives a Trade Capture Report after submitting an Initial Trade Notification (ITN)	
Requirements	All participants are expected to create and manage trade reports under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	Test Scenarios	Expected Results
1.	The participant sends a Two-Sided Trade Report to indicate an Initial Trade Report	Application receives a Trade Capture Report (35=AE) for the ITN submitted

3.5.4 Trade Capture Report for Delayed Trade

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application receives a Trade Capture Report for Delayed Trades	
Requirements	All participants are expected to create and manage trade reports under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details	
#	Test Scenarios	Expected Results
1.	The participant sends a Delayed Trade Report	Application receives a Trade Capture Report (35=AE) for the Delayed Trade

4. ASX Assisted Conformance Scenarios

This phase of the conformance test process is allocated for one-to-one testing between the participant and a member of the ASX Customer Technical Support. These scenarios will be tested in a controlled manner with both sides on the phone confirming each test in turn independently.

This session should only be booked with ASX when the "Self-testing" phase is successfully completed.

4.1. Logon (Application validation)

Category	Mandatory	
Description	The purpose of this test is to verify whether the Application name and version (tag 1408) in Logon (35=A) message matches the details provided on the conformance checklist	
Requirements		
#	Test Scenarios	Expected Results
1.	Participant should send Logon (35=A) message with DefaultCstmApplVerID (tag 1408) correctly populated	CTS member performing the Assisted Test to verify if the details supplied in the Logon messages matches with the value supplied in the conformance checklist

4.2. Force Logout and Disable

Category	Mandatory	
Description	The purpose of this test is to validate the behaviour of the user account once it has been logged out forcefully and to ensure that the application does not attempt multiple Login retry attempts once the account has been disabled	
Requirements	ASX requires that participants incorporate a 5 second delay between reconnection attempts, with a maximum retry limit of 3	
#	Test Scenarios	Expected Results
1.	CTS will force logout and disable the account, subsequently triggering a Logout (35=5) message	The application will receive a Logout (35=5) message with SessionStatus (tag 1409) = 4 (Session Logout Complete)
2.	The application will perform another Logon (35=A) while the account remains disabled	The application will receive a Logout (35=5) message with SessionStatus (tag 1409) = 6 (Account Locked). The application is observed and should not be attempting multiple Logon (35=A) retry attempts once the account is locked
3.	CTS will enable the account and the application performs another Logon (35=A)	The application receives an acknowledgment with Message Type as (35=A) confirming a successful logon, where SessionStatus (tag 1409) = 0 (Session Active). Application will then need to maintain a heartbeat

4.3. Password Expiry

Category	Mandatory
Description	The purpose of this test is to ensure an application can correctly manage an account that has reached its password expiry date The participant will receive an error message upon login, relating to an account that requires a change in password, simulating a scenario of an expired login This test will force the account to an expired state and the application should be able to re-establish connectivity and provide a new logon password thereafter It is expected that the application will refrain from any further connection attempts if it's unable to provide a valid logon message after the password expires
Requirements	

#	Test Scenarios	Expected Results
1.	The application will perform a standard logout (35=5). ASX will then set a new password which will be configured to expire immediately, then advise the participant what the new password is	The application will receive a Logout (35=5) confirmation
2.	The application will then send a Logon (35=A) message using the new password provided by ASX in Password field (tag 554)	The application will receive a Logout (35=5) from the exchange where the SessionStatus (tag 1409) = 8 (Password expired) and its connection will be terminated by the exchange
3.	The application will then need to send a Logon (35=A) message, where it sends a valid NewPassword (tag 925) value	The application will maintain its connection to the exchange

4.4. Message Recovery (Order/Trade)

Category	Mandatory
Description	The purpose of this test is to ensure that the application can recover orders or trades when connection is lost
Requirements	To complete this test scenario, the application will need to be disconnected from the development environment and ASX will enter orders or execute trades while the user is offline

#	Test Scenarios	Expected Results
1.	Order Entry: The application should be logged off. ASX will place new orders or execute against resting orders on behalf of the participant	Orders are accepted by the exchange while the application remains disconnected

2.	Order Recovery: The application will need to log on and perform a ResendRequest (35=2) request to retrieve missing Execution Reports (35=8)	The customer should confirm OrderID (tag 37) submitted while the user was disconnected
3.	Trade Recovery: The application will need to log on and perform a ResendRequest (35=2) request to retrieve missing Trade Capture Reports (35=AE) and/or Execution Reports (35=8)	The customer should confirm ExecID (tag 17) for Trade Capture Reports or OrderID (tag 37) for Execution reports executed while the user was disconnected

4.5. Trade Cancellation (Trade Capture Reports)

Category	Mandatory
Description	The purpose of this test is to ensure that the application can receive a Trade Cancellation message from the Trading Platform. Trade cancellations initiated by the ASX will result in the application receiving a Trade Capture Report (35=AE) containing details of the Trade Cancel
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details

#	Test Scenarios	Expected Results
1.	The participant enters an order for any instrument	Users configured for Execution Reports (35=8) will be sent with OrdStatus (tag39) = 0 (New)
2.	CTS will execute against the order to generate a trade that will either partially or fully fill the order	Users configured for Execution Reports (35=8) will be sent with OrdStatus (tag 39) = 1 (partially filled) or 2 (fully filled)
3.	CTS will then cancel the Trade	The application will receive an Trade Capture Report (35=AE) with ExecType (150=H) once the Leg Trade has been cancelled

4.6. Unsolicited Cancel

Category	Mandatory
Description	The purpose of this test is to ensure that the application can manage the receipt of unsolicited cancel messages when other applications take action on orders it has placed or managed
Requirements	All participants are expected to create and manage orders under their own Participant ID (PID) as part of the FIX Drop Copy conformance process – see 2.5 above for details

#	Test Scenarios	Expected Results
1.	The participant enters a new order	The Execution Report returns a successful OrdStatus (tag 39) = 0 (New)
2.	CTS will cancel the above new order	Application receives an Execution Report (35=8) confirming order cancellation

4.7. Security List Update Report

Category	Supported Functionality	
Description	The purpose of this test is to ensure that the application can receive Security List Update Report (35=BK) message when Intra-day Security updates happen	
Requirements		
#	Test Scenarios	Expected Results
1.	The application sends a SecurityListRequest (35=x) message with all the mandatory tags where SecurityListRequestType (tag 559) = 4 (All items) and SubscriptionRequestType (tag 263) = 1 (Snapshot + Updates)	Application will receive a SecurityList (35=y) message with the Snapshot of the list of securities that matches the criteria specified in the SecurityListRequest (35=x) message
2.	CTS will trigger an Intra-day Security update on the relevant instrument	Application will receive a 35=BK providing relevant information about the Intra-day security update