

Bolsa Institucional
de Valores

BIVA

CERTIFICATION

BIVA PROTOCOL CERTIFICATION PROCESS

Version	1.0
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File	BIVA Protocol Certification Process

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Document History

VERSION	DATE	AUTHOR	SUMMARY OF CHANGES
1.0	2017-03-22	Juan J. Martínez	Draft Version for Member Firms
1.1	2017-07-24	Juan J. Martínez	Official Version

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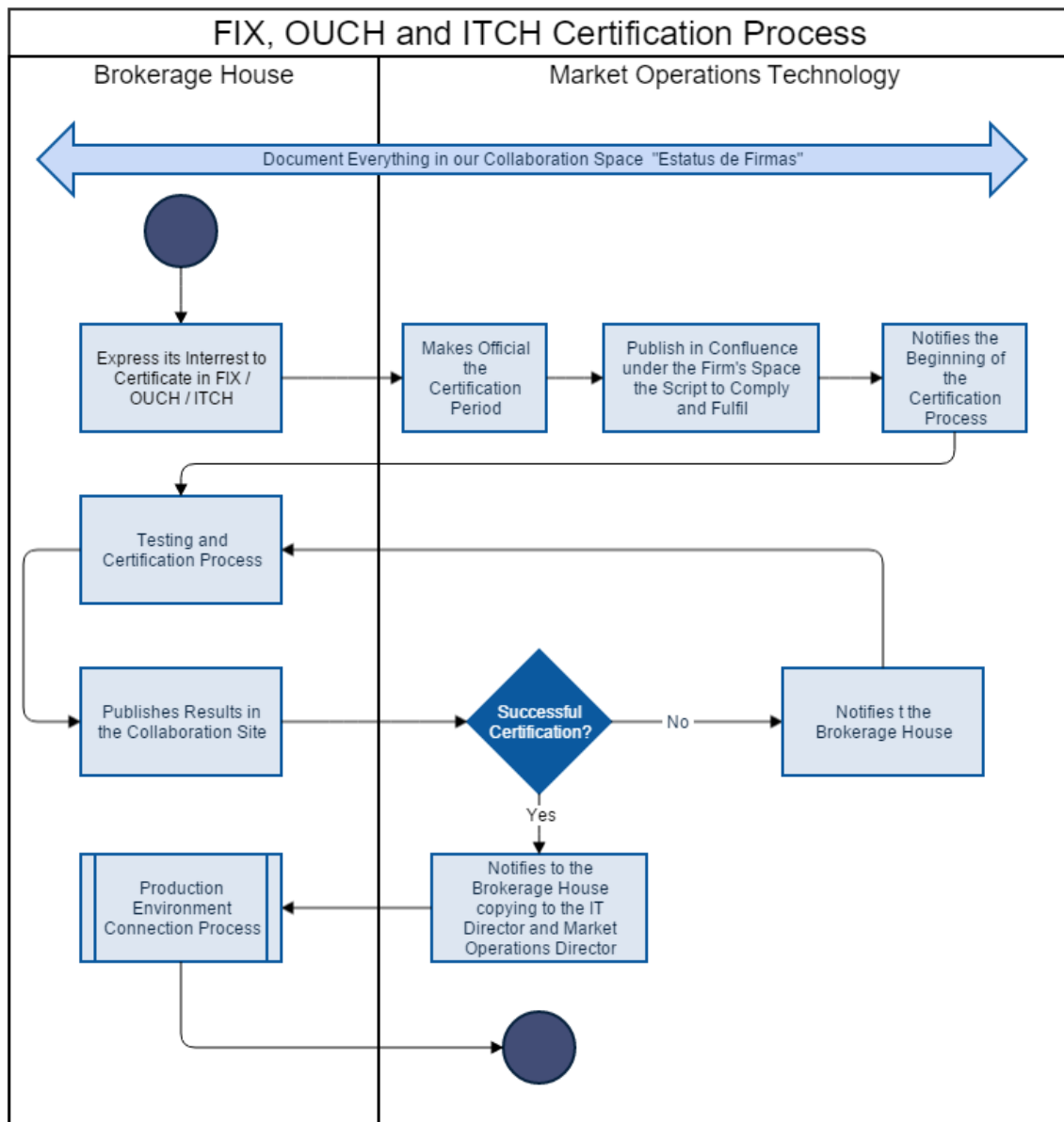
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1 Introduction

This document provides the certification process for the different protocols FIX, ITCH and OUCH.

The process is scheduled for 3 days from 7:50 to 15:10, period where BIVA will be dedicated for any support needed, Skype for Business will be used for better communication and attention. Please refer to the BIVA Skype Conferences GUIDE for details.

The process flow is as follows:



2 Process In Detail

Once the beginning of the certification process is officialized and communicated to the Brokerage House:

2.1 Market Ops Technology Publishes in Confluence the Script to Comply and Fulfill

Next screen shows how the script looks like.

The screenshot shows a Confluence page titled "FIX Certification Script" with the following content:

Mandatory

ID	Objective	Certification Test Cases	Notes	Obtained Result (FIX Messages)
Administrative Messages				
AM-001	Validate a successful Logon Request is sent and client is logged on.	Send Logon Message 35=A to FIX Engine. Validar la solicitud de inicio e sesión exitoso.	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed Administrative Messages adheres to BIVA Operation Rules Manuals. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que el mensaje administrativo se apega al Manual de Reglas Operativas. 	Mensaje FIX de Respuesta
AM-002	Validate a successful Heartbeat	Send heartbeat message 35=0 to FIX Engine. Validar el mensaje Heartbeat		Mensaje FIX de Salida
AM-003	Validate that a successful Re-send request is processed by client engine, BIVA initiated.	Reply to a Re-Send request sent by BIVA. Validar que un Re-send request es procesado por el motor FIX del cliente, iniciado por BIVA.		Mensaje FIX de Respuesta
AM-004	Validate a successful re-send request initiated by the client	BIVA will properly reply filling the sequence gap from the client resend request. Validar que un Re-send request es procesado por el motor FIX del BIVA, iniciado por Cliente.		Mensaje FIX de Salida
AM-005	A successful logout message 35=5 is sent.	Client sends a logout message 35=5, ending FIX session. Validar la solicitud y cierre de sesión exitoso.		Mensaje FIX de Salida
BIVA Market Orders				
MO-001	Validate a successful buy at Market	Buy 500 at Market Validar una compra exitosa a Mercado	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed market order adheres to BIVA Operation Rules Manual using a pre-defined sample of variable order instructions. The firm verifies that market orders are positively acknowledged by BIVA. The firm will confirm that their system infrastructure is capable of processing the acknowledgement message received from BIVA. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que la orden a mercado se apega al Manual de Reglas Operativas BIVA utilizando una muestra de órdenes. 	Mensaje FIX de Salida
MO-	Validate a successful sell at	Sell 500 at Market MinQty 250		Mensaje FIX de Respuesta

La firma verifica que las órdenes de mercado son reconocidas positivamente por BIVA. La

2.2 Testing and Certification Process

Once started the certification process and ready to publish the results you need to click on the edit button.

The screenshot shows a Confluence page titled "FIX Certification Script" within the "BIVA" space. The page content is organized into sections: "Mandatory", "Administrative Messages", and "BIVA Market Orders". Each section contains a table with columns for ID, Objective, Certification Test Cases, Notes, and Obtained Result (FIX Messages). The "Administrative Messages" section includes test cases for login, heartbeat, and re-send requests. The "BIVA Market Orders" section includes test cases for buy and sell orders. On the right side of the page, there are buttons for "Mensaje FIX de Respuesta" and "Ampliar origen". A red box highlights the "Editar" button in the top right corner of the page.

ID	Objective	Certification Test Cases	Notes	Obtained Result (FIX Messages)
Administrative Messages				
AM-001	Validate a successful Logon Request is sent and client is logged on.	Send Logon Message 35=A to FIX Engine. Validar la solicitud de inicio e sesión exitoso.	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed Administrative Messages adheres to BIVA Operation Rules Manuals. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que el mensaje administrativo se apega al Manual de Reglas Operativas. 	Mensaje FIX de Respuesta
AM-002	Validate a successful Heartbeat	Send heartbeat message 35=0 to FIX Engine. Validar el mensaje Heartbeat		
AM-003	Validate that a successful Re-send request is processed by client engine. BIVA initiated.	Reply to a Re-Send request sent by BIVA. Validar que un Re-send request es procesado por el motor FIX del cliente, iniciado por BIVA.		Mensaje FIX de Salida Mensaje FIX de Respuesta
AM-004	Validate a successful re-send request initiated by the client	BIVA will properly reply filling the sequence gap from the client resend request. Validar que un Re-send request es procesado por el motor FIX del BIVA, iniciado por Cliente.	Recibir la respuesta por parte de BIVA posterior a un Re-Send request.	Mensaje FIX de Salida Mensaje FIX de Respuesta
AM-005	A successful logout message 35=5 is sent.	Client sends a logout message 35=5, ending FIX session. Validar la solicitud y cierre de sesión exitoso.	El cliente envía un mensaje de Logout 35=5, cerrando la sesión FIX.	Mensaje FIX de Salida Mensaje FIX de Respuesta
BIVA Market Orders				
MO-001	Validate a successful buy at Market	Buy 500 at Market Validar una compra exitosa a Mercado	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed market order adheres to BIVA Operation Rules Manual using a pre-defined sample of variable order instructions. The firm verifies that market orders are positively acknowledged by BIVA. The firm will confirm that their system infrastructure is capable of processing the acknowledgement message received from BIVA. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que la orden a mercado se apega al Manual de Reglas Operativas BIVA utilizando una muestra de órdenes. 	Mensaje FIX de Salida Mensaje FIX de Respuesta
MO-	Validate a successful sell at	Sell 500 at Market MinQty 250	La firma verifica que las órdenes de mercado son reconocidas positivamente por BIVA. La	Mensaje FIX de

Once in edition way and ready to run the cases, per case you need to fill the box with the outbound and inbound messages according to the scenario.

The screenshot shows a Confluence page titled "FIX Certification Script" under the "Mandatory" section. It contains a table with columns: ID, Objective, Certification Test Cases, Notes, and Obtained Result (FIX Messages). The table lists several test cases (AM-001 to AM-004) related to Logon, Heartbeat, and Re-Send requests. To the right of the table, there is a vertical column of input boxes, each labeled "Bloque de Código | title = Mensaje". A red rectangle highlights the top three of these input boxes.

ID	Objective	Certification Test Cases	Notes	Obtained Result (FIX Messages)
Administrative Messages				
AM-001	Validate a successful Logon Request is sent and client is logged on.	Send Logon Message 35=A to FIX Engine.	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed Administrative Messages adheres to BIVA Operation Rules Manuals. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que el mensaje administrativo se apega al Manual de Reglas Operativas. 	<input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje <input type="text"/> Bloque de Código title = Mensaje
	Validar la solicitud de inicio de sesión exitoso.	Enviar un mensaje de Logon 35=A al motor FIX.		
AM-002	Validate a successful Heartbeat	Send heartbeat message 35=0 to FIX Engine.		
	Validar el mensaje Heartbeat	Enviar un mensaje Heartbeat 35=0 al motor FIX.		
AM-003	Validate that a successful Re-send request is processed by client engine, BIVA initiated.	Reply to a Re-Send request sent by BIVA.		
	Validar que un Re-send request es procesado por el motor FIX del cliente, iniciado por BIVA.	Responder el Re-Send request enviado por BIVA.		
AM-004	Validate a successful re-send request initiated by the client	BIVA will properly reply filling the sequence gap from the client resend request		
	Validar que un Re-send request es procesado por el motor FIX del BIVA, iniciado por Cliente.	Recibir la respuesta por parte de BIVA posterior a un Re-Send request.		

After filling the boxes and ready to save, click on SAVE button.

The screenshot shows a web browser window displaying the 'FIX Certification Script' configuration page. The page is titled 'BIVA Customers Information / Páginas / ... / FIX Certification Script'. The main content area contains a table with the following columns: ID, Objective, Certification Test Cases, and Notes. The table is divided into sections for 'Administrative Messages' and 'Heartbeat' tests. The 'Obtained Result (FIX Messages)' sidebar on the right shows a detailed log of a successful login message, including fields like BeginString, BodyLength, MsgType, and CheckSum. At the bottom right of the page, a red box highlights the 'Guardar' (Save) button, which is part of a navigation bar that also includes 'Previsualizar' and 'Cerrar' buttons.

ID	Objective	Certification Test Cases	Notes
Administrative Messages			
AM-001	Validate a successful Logon Request is sent and client is logged on.	Send Logon Message 35=A to FIX Engine.	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed Administrative Messages adheres to BIVA Operation Rules Manuals. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que el mensaje administrativo se apega al Manual de Reglas Operativas.
	Validar la solicitud de inicio e sesión exitoso.	Enviar un mensaje de Logon 35=A al motor FIX.	
AM-002	Validate a successful Heartbeat	Send heartbeat message 35=0 to FIX Engine.	
	Validar el mensaje Heartbeat	Enviar un mensaje Heartbeat 35=0 al motor FIX.	
AM-003	Validate that a successful Re-send request is processed by client engine, BIVA initiated.	Reply to a Re-Send request sent by BIVA.	
	Validar que un Re-send request es procesado por el motor FIX del cliente, iniciado por BIVA.	Responder el Re-Send request enviado por BIVA.	

Now you can click in the link to view what you saved.

The screenshot shows a Confluence page for 'FIX Certification Script'. The page contains a table with columns: ID, Objective, Certification Test Cases, Notes, and Obtained Result (FIX Messages). The table is divided into sections: 'Administrative Messages' and 'BIVA Market Orders'. In the 'Obtained Result' column, there are several buttons labeled 'Mensaje FIX de Respuesta' and 'Mensaje FIX de Salida', each with a link 'Ampliar origen' next to it. One of these 'Ampliar origen' links is highlighted with a red rectangle.

ID	Objective	Certification Test Cases	Notes	Obtained Result (FIX Messages)
Administrative Messages				
AM-001	Validate a successful Logon Request is sent and client is logged on. Validar la solicitud de inicio e sesión exitoso.	Send Logon Message 35=A to FIX Engine. Enviar un mensaje de Logon 35=A al motor FIX.	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed Administrative Messages adheres to BIVA Operation Rules Manuals. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que el mensaje administrativo se apega al Manual de Reglas Operativas. 	Mensaje FIX de Respuesta > Ampliar origen
AM-002	Validate a successful Heartbeat Validar el mensaje Heartbeat	Send heartbeat message 35=0 to FIX Engine. Enviar un mensaje Heartbeat 35=0 al motor FIX.		Mensaje FIX de Salida > Ampliar origen
AM-003	Validate that a successful Re-send request is processed by client engine. BIVA initiated.	Reply to a Re-Send request sent by BIVA.		Mensaje FIX de Salida > Ampliar origen
	Validar que un Re-send request es procesado por el motor FIX del cliente, iniciado por BIVA.	Responder el Re-Send request enviado por BIVA.		Mensaje FIX de Respuesta > Ampliar origen
AM-004	Validate a successful re-send request initiated by the client	BIVA will properly reply filling the sequence gap from the client resend request		Mensaje FIX de Salida > Ampliar origen
	Validar que un Re-send request es procesado por el motor FIX del BIVA, iniciado por Cliente.	Recibir la respuesta por parte de BIVA posterior a un Re-Send request.	Mensaje FIX de Respuesta > Ampliar origen	
AM-005	A successful logout message 35=5 is sent.	Client sends a logout message 35=5, ending FIX session.	Mensaje FIX de Salida > Ampliar origen	
	Validar la solicitud y cierre de sesión exitoso.	El cliente envía un mensaje de Logout 35=5, cerrando la sesión FIX.	Mensaje FIX de Salida > Ampliar origen	
BIVA Market Orders				
MO-001	Validate a successful buy at Market	Buy 500 at Market	<ul style="list-style-type: none"> The BIVA Certification System performs an inbound validation to check that the firm's directed market order adheres to BIVA Operation Rules Manual using a pre-defined sample of variable order instructions. The firm verifies that market orders are positively acknowledged by BIVA. The firm will confirm that their system infrastructure is capable of processing the acknowledgement message received from BIVA. El Sistema de Certificación BIVA realiza una validación de entrada para comprobar que la orden a mercado se apega al Manual de Reglas Operativas BIVA utilizando una muestra de órdenes. 	Mensaje FIX de Salida > Ampliar origen
	Validar una compra exitosa a Mercado	Comprar 500 a Mercado		Mensaje FIX de Respuesta > Ampliar origen

The screenshot shows a Confluence page for 'FIX Certification Script'. It contains a table with columns: ID, Objective, Certification Test Cases, Notes, and Obtained Result (FIX Messages). The table is divided into sections: 'Administrative Messages', 'BIVA Market Orders', and 'BIVA Market Orders'. A red box highlights a 'Mensaje FIX de Respuesta' (FIX Message Response) with the following details:

```

1 BeginString (8) = FIXT.1.1
2 BodyLength (9) = 94
3 MsgType (35) = A [Logon]
4 MsgSeqNum (34) = 1
5 SenderCompID (49) = T04
6 SenderSubID (50) = T04FT005
7 SendingTime (52) = 20161123-19:48:19.729
8 TargetCompID (56) = BIVA
9 EncryptMethod (98) = 0
10 HeartBtInt (108) = 30
11 Username (553) = T04FC005
12 DefaultAppVerID (1137) = 8
13 CheckSum (10) = 188
    
```

Below the message details, there are several buttons labeled 'Mensaje FIX de Salida' and 'Mensaje FIX de Respuesta' with 'Ampliar origen' (Expand source) links.

2.3 Notify to BIVA that Everything in the Script is Ready to Review

Once finished the script and steps before, you should notify BIVA that everything was completed and if everything is correct BIVA will notify the Brokerage House that the certification was successful.

3 Point of Contact

The main point of contact for this process is Juan J. Martínez:

Mail: jmartinezs@biva.mx

Phone: 5284-9278