

Rules of Engagement

for

SET-FIX Service



Bogotá, September 2017.

Version 0.9

TEXT OF PROPRIETARY INFORMATION

This document is property of SET-ICAP FX S.A. (SET-ICAP), and is intended to be used exclusively by people involved in the SET-FIX project and may content confidential information. Therefore, the use of confidential information will be strictly followed under the rules of confidentiality that each employee of SET-ICAP must comply.

Table of Contents

1.	Overview	5
2.	LEGAL DISCLAIMER	6
3.	Related documents	7
4.	APPLICATION PROCESS	8
5.	TEST ENVIRONMENT	9
6.	PRODUCTION ENVIRONMENT	10
7.	CONNECTING TO SET-FX (TEST ENVIROMENT – PRODUCTION ENVIRONMENT)	11
	7.1. Network Connectivity requirements	11
	7.2. Bandwidth Requirements	11
	7.3. Lost Connections with SET-FIX Server	11
8.	PROFILES AND FIX SESSIONS	12
	8.1 Number of orders per second.	12
9.	STANDARD OPERATION ISSUES.....	13
	9.1. Before operating on Order Management (OM) or Market Data (MD) sessions ..	13
	9.2. FIX messages that are supported in SET-FIX	13
	9.4. Orders out of price boundaries	15
	9.5. Continuous trading period and required activities	15
	9.6. Closing/Opening period and required activities	15
	9.7. Supported FIX version of the protocol.....	15
	9.8. Intraday Session Resets.....	15
	9.9. Non-supported functionality	15
10.	CONTACTS	16

Rules of Engagement for SET-FIX

1. Overview

SET-FIX is the FIX protocol implementation for SET-ICAP FX S.A., developed by *Datatec Systems*, to allow affiliates to have direct access to the SET-FX System using the FIX standard protocol. **SET-FIX** enables affiliates to connect, send orders and get market data from the SPOT and NEXT DAY markets using the FIX protocol language. **SET-FIX** supports FIX 5.0 SP2.

This document sets out the main rules regarding technical connectivity, along with the procedures to access **SET-FIX** infrastructure, according to the document “*FIX Specification for Datatec Systems*” (please refer to this document at any time for these specifications). Any modification related to this Rules of Engagement document, or any other related to SET-FIX specifications, will be informed by SET-ICAP.

Any SET-ICAP affiliate that wishes to connect any FIX development to **SET-FIX** **must comply** with FIX specifications, setup all their systems according to the guidelines published by SET-ICAP FX S.A. and perform **SET-FIX** certification process successfully. Any missing step in this process will result in the affiliate being restricted to connect to **SET-FIX**.

It is noteworthy to mention that this document will only be applicable for SPOT and NEXT DAY markets (COP/USD), between FX Agents known in the Colombian Regulation as *Intermediarios del Mercado Cambiario* (IMC). All regulation stated for these agents will be issued by the Central Bank of Colombia (*Banco de la República*).

2. LEGAL DISCLAIMER

SET-FIX is a new connectivity mechanism provided by SET-ICAP FX S.A. (as from now on “SET-ICAP”). SET-ICAP is not responsible for the quality and performance of the Affiliates FIX implementation throughout this service.

The Affiliate is responsible for implementing its own way to connect to **SET-FIX** by choosing the FIX solution they prefer.

All information contained in this document is confidential.

3. Related documents

The following list contains all related documents that will be mentioned in different parts of this document as well as a general description of each.

Ref. 1. *FIX Specification for Datatec Systems*

This document contains the FIX Protocol Specification (Version 5.0 Service Pack 2) for **SET-FIX** and will be the main guide for software developers.

Ref. 2. “*Reglamento Sistema de Negociación y Registro SET-FX*”.

All rules and general guidelines for **SET-FIX** services are contained herein. This document will be available on www.set-fx.com.

Ref. 3. “*Contrato de provisión de servicio SET-FIX*”

This contract has to be signed prior to access SET-FIX service.

Ref. 4. “*Circular SET-FIX (Circular Única SET-FIX)*”

This document develops all rules mentioned in SET-FX Reglamento and it is mandatory for those users engaged in SET-FX Service.

Ref. 5. “*Formato de Productos Contratados*”

This form must be submitted by affiliates in order to receive a user ID of **SET-FIX** service. This form will be used to keep track of active **SET-FIX** users as well as to keep record of people responsible of its usage.

Ref. 6. Test Environment Access Request Form (*Solicitud de Acceso a Ambiente de Pruebas*)

This form has to be submitted in order to access to Test Environment for **SET-FIX** Service.

4. APPLICATION PROCESS

To be a valid **SET-FIX Affiliate**, the following 4-step process has to be completed:

STEP 1: KNOWLEDGE AND UNDERSTANDING. Fully knowledge and understanding of all the documents stated on **3. RELATED DOCUMENTS** will be necessary to start the **SET-FIX** certification process.

Documents will be published by SET-ICAP, and any questions or enquiries regarding the afore-mentioned guidelines, may be addressed to the contacts referenced on this document.

STEP 2: TEST ENVIRONMENT. Once read and understood all documents mentioned in Step 1, the Affiliate must test all its developments under a Test Environment.

In order to get access to Test Environment, the Affiliate must fill out the form **“Ref. 6 Solicitud de acceso a Ambiente Pruebas”**.

SET-ICAP will provide the guidelines to connect to this environment as well as the list (step by Step) of tests that must be performed by the affiliates under the Test Environment.

STEP 3: CERTIFICATION PROCESS. Completed Step 2, the affiliate must schedule with SET-ICAP the Certification Process. This Certification Process will help SET-ICAP to test thoroughly all FIX applications developed by the affiliates to guarantee their quality, robustness and suitability prior to be connected to production environments. Once completed and approved the Certification Process, SET-ICAP will issue the **Credentials** (user, password, IP address, Ports) to grant access to Production Environment for the Affiliates.

STEP 4: PRODUCTION ENVIROMENT. After a successful completion of the Certification Process, the Affiliate that receive the credentials is ready to connect to the production environment and will have direct access to the SET-FX System using the **SET-FIX** Service.



WARNING: Any new developments made by the affiliate which are not consented or tested, or skipping any of the above-mentioned steps will imply that the affiliate must start the whole process from the beginning.

5. TEST ENVIRONMENT

Layout of the Test Environment

SET-ICAP will provide a Test Environment (as showed in the diagram) with one server that will support tests for any of the three **SET-FIX** sessions:

- ✓ Order Management session (OM)
- ✓ Market Data session (MD),
- ✓ Drop Copy (DC) session.

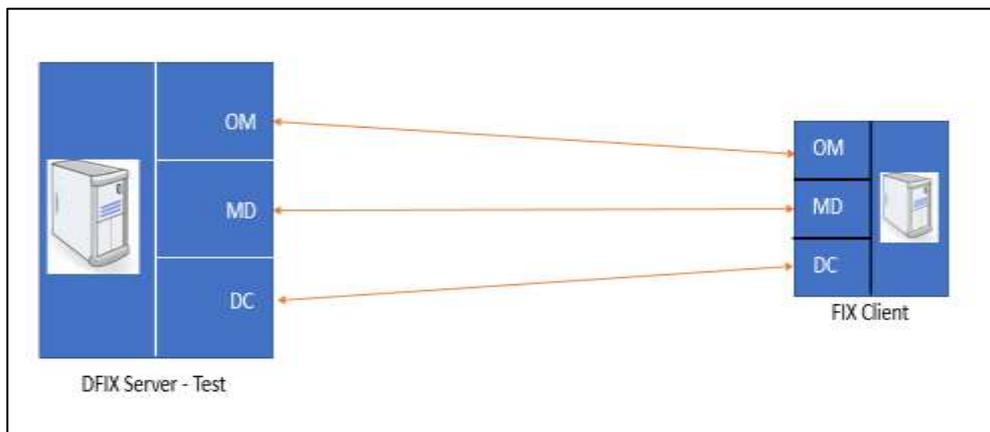


Diagram. Session connectivity layout for SET-FIX in Testing environment.

6. PRODUCTION ENVIRONMENT

PRODUCTION

SET-FIX will provide **one dedicated server** for each session type:

- ✓ One server for Order Management Sessions (OM)
- ✓ One server for Market Data sessions (MD)
- ✓ One server for Drop Copy sessions (DC).

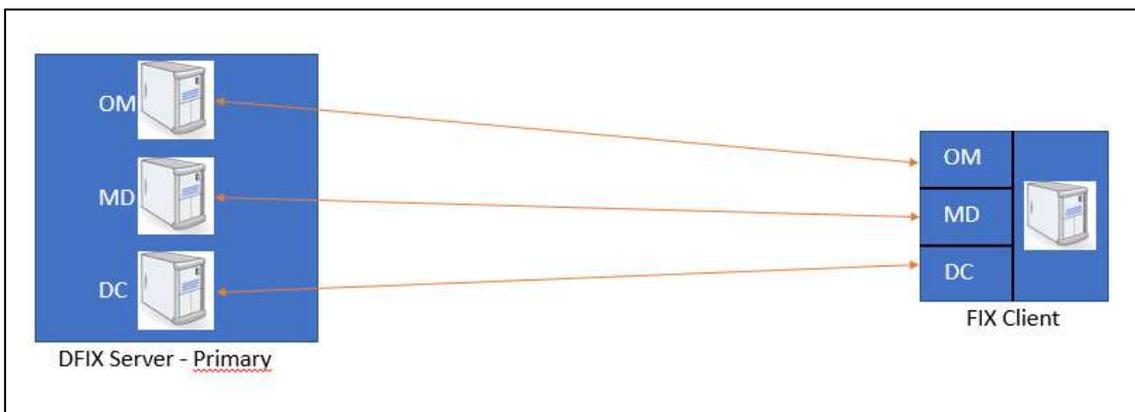


Diagram. Session connectivity layout for SET-FIX in Production.

POTENTIAL FAILOVER EVENTS

SET-FIX is designed to provide **alternate servers** for failover situations. Affiliates are responsible to manage the switching of servers accordingly.

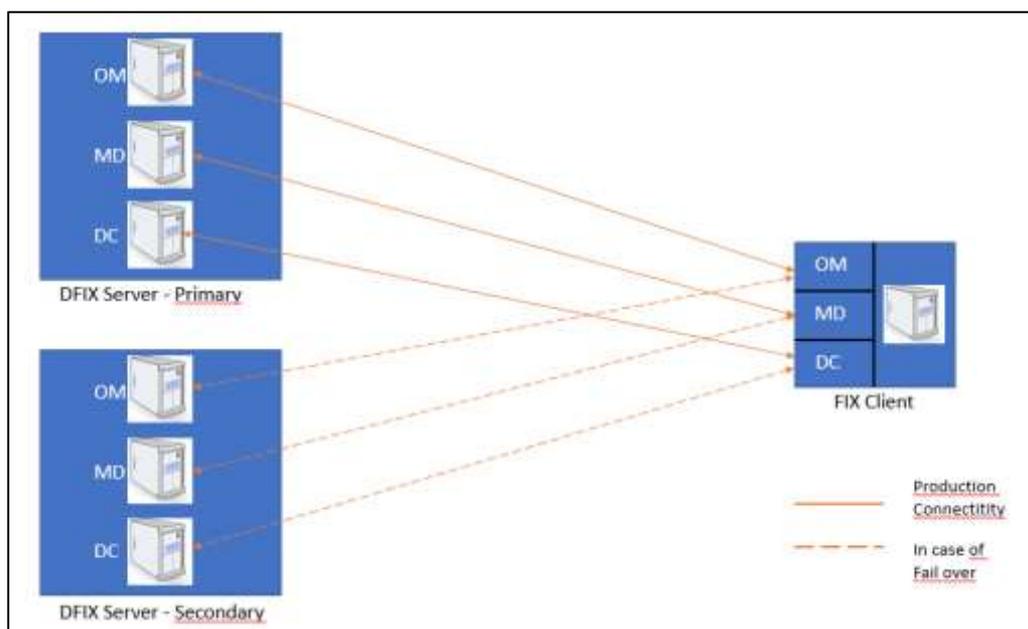


Diagram. Failover layout for SET-FIX.

7. CONNECTING TO SET-FX (TEST ENVIRONMENT – PRODUCTION ENVIRONMENT)

7.1. Network Connectivity requirements

SET-FIX supports the following connectivity methods:

- **FOR TEST ENVIRONMENT → VPN**: Affiliates may connect using a VPN server-to-server access to SET-ICAP data centers ONLY for the test environment. As VPN access relies on the internet, delivery of information is not guaranteed. SET-ICAP is not responsible for any problem that this mechanism might cause.
- **FOR PRODUCTION ENVIRONMENT → POINT-TO-POINT**: Affiliates must connect using point-to-point connection leased lines. The only two carriers with facilities to provide the lines to SET-ICAP Data Centers are: **CLARO and LEVEL3**, these two carriers are jointly working to provide a unique service to any party that wants to connect to SET-ICAP.

7.2. Bandwidth Requirements

Notice: Affiliates using FIX protocol must be aware that message flow throughout FIX sessions could consume bandwidth that might affect performance for other applications.

Additional bandwidth requirements for each session types to run SET-FIX will be available shortly and will be informed from SET-ICAP.

7.3. Lost Connections with SET-FIX Server

If any **SET-FIX** user loses connection, it must always try first to reestablish connection with the same main server before trying to connect to the alternate server.

8. PROFILES AND FIX SESSIONS

The following chart shows the messages that can be sent or received by an affiliate, according to the session:

Session	Messages you can manage
Order Management (OM)	Order Management messages
	Reference Data Messages
Market Data (MD)	Market Data Messages
	Reference Data Messages
Drop Copy (DC)	Receive ER owned by brokers same firm
	Trade Capture Reporting messages

8.1 Number of orders per second.

SET-FIX is designed to support a high number of orders and messages per second. When using order entry on **SET-FIX**, Affiliate's FIX protocol infrastructure might tend to send a high number of orders that could exceed the amount of orders that **SET-FIX** can handle. Thus, in order to avoid performance issues on **SET-FIX**, Affiliate's (FIX Infrastructure) must not exceed the number of order messages per second into the SET-FX as follows:

- 30 orders per second. The orders can be sent on a random peak or on a continuous basis.

Please be aware that if the number of orders exceeds the above figure, orders in excess will be queued and processed according to the availability of the order management service in SET-FIX. Also, should this queue surpass 999 orders, the corresponding session will be dropped.

9. STANDARD OPERATION ISSUES

At this stage, just the following markets will be supported by the SET-FIX mechanism.

- Dollar SPOT
- Dollar NEXT DAY

9.1. Before operating on Order Management (OM) or Market Data (MD) sessions

Before starting any messaging through these OM or MD sessions, each Affiliate **must** first send a message to **SET-FIX** server requesting the markets they want to have access.

To do so, the Affiliate must use the *MarketDefinitionRequest* message. The system will send back a Market Definition (35=BU) message for each SET-FX market in which the Affiliate is authorized to participate. Please refer to the *FIX Specification for Datatec Systems* for more details.



WARNING.

Please be aware that SET-FIX won't let you interchange any further messages in the sessions mentioned above until the action specified above is performed.

9.2. FIX messages that are supported in SET-FIX

The following charts summarizes the type of messages supported by **SET-FIX** Service. Any non-supported messages that are received by **SET-FIX** will be rejected with a Business Message Reject message, with tag *BusinessRejectReason* (380) = 3 (unsupported message type).

SET-FIX supports the following FIX messages derived from version 5.0 SP2 of the protocol. This is an illustrative summary of the scope detailed in the *FIX Specification for Datatec Systems*:

MESSAGE SUMMARY

Session Messages	MsgType	Sent by SET-FIX	Received by SET-FIX
Heartbeat	0	•	•
Test Request	1	•	•
Resend Request	2	•	•
Reject	3	•	•
Sequence Reset	4	•	•
Logout	5	•	•
Logon	A	•	•
BusinessMessageReject	j	•	

Order Management Messages	MsgType	Sent by SET-FIX	Received by SET-FIX
New Order Single	D		•
Order Cancel Request	F		•
Order Cancel Replace Request	G		•
Order Cancel Reject	9	•	
Execution Report	8	•	
OrderMassActionRequest	CA		•
OrderMassActionReport	BZ	•	
OrderStatusRequest	H		•

Market Data Messages	MsgType	Sent by SET-FIX	Received by SET-FIX
Market Data Request	V		•
Market Data Snapshot Full Refresh	W	•	
Market Data Incremental	X	•	
Market Data Request Reject	Y	•	

Reference Data Messages	MsgType	Sent by SET-FIX	Received by SET-FIX
Market Definition Request	BT		•
Market Definition Refresh	BU	•	
MarketDefinitionUpdateReport	BV	•	
PartyRiskLimitsRequest	CL		•
PartyRiskLimitsReport	CM	•	
PartyRiskLimitsUpdateReport	CR	•	

Post Trade Messages	MsgType	Sent by SET-FIX	Received by SET-FIX
TradeCaptureReportRequest	AD		•
TradeCaptureReport	AE	•	•
TradeCaptureReportRequestAck	AQ	•	
TradeCaptureReportAck	AR	•	

Any unsupported messages that are received by **SET-FIX** will be rejected with a Business Message Reject message, with tag *BusinessRejectReason* (380) = 3 (unsupported message type).

SET-FIX only supports *Limit* order types.

9.4. Orders out of price boundaries

Orders received by SET-FIX with prices that are above the HIGH or below the LOW allowed price range, will be rejected.

9.5. Continuous trading period and required activities

SET-FIX affiliate is always responsible to comply with all documents involved by FIX Protocol Mechanisms, to that extent any breach of the requirements regarding connection, numbers of orders per second or connectivity requirements, among others, would be its full responsibility and could lead to the disconnection of its FIX application.

9.6. Closing/Opening period and required activities

When the market closes, all pending orders are automatically removed from the system.

Affiliates will receive Execution Reports Messages (ER) on their Drop Copy sessions (DC).

- SET-FIX service will shut down at 7:00PM COT every day. All affiliates must close all the subscriptions and connections they have with **SET-FIX** before the above-mentioned time.
- The SET-FIX service starts to receive logging sessions every day at 7:00 am COT and to receive messages starting at 8:00am. Weekends and Holidays the SET-FIX service won't be available

9.7. Supported FIX version of the protocol

FIX 5.0 SP2 is the protocol used by **SET-FIX**. Affiliates will have to follow *FIX Specification for Datatec Systems* for more specification and requirements.

9.8. Intraday Session Resets

Intraday Session Reset messages are not supported in this version of the **SET-FIX** architecture.

9.9. Non-supported functionality

Multiple subscriptions to Market Data in the same Market Data (MD) session are not allowed.

10. CONTACTS

For any enquiries regarding any steps of the process, please refer to:

Franz Chamorro
IT Director SET-ICAP
fchamorro@set-icap.co

Alejandro Arias
Commercial Manager
aarias@set-icap.co

Lina Montoya
FIX support
lmontoya@set-icap.co

SET-ICAP FX S.A.
Carrera 11 # 93-46 Oficina 403
T: (+571) 7427777
Bogotá, Colombia.