

CLEARCORP DEALING SYSTEMS (INDIA) LIMITED
(A wholly owned subsidiary of CCIL)

FX Retail Web Platform
Note to Member IT Departments Version 5.0

Revision History

Release Date	Release Number	Details
June 27, 2019	1.0	<p>New Document Describes Member IT Pre-requisites for the FX Retail Web Platform. Also Describes Mock testing details for FX Clear (Interbank) trading platform</p> <p>Note: This version does not include the Pre-requisites for the “Participant Interface” utility that would facilitate the dispatch of post trade details from CCIL to members. These details would be updated in a future version of this document.</p>
July 19, 2019	2.0	<p>Updated to include details of the “Participant Interface” utility that facilitates the dispatch of post trade details from CCIL to members.</p> <p>Please refer to Section 4 – The Participant Interface for more details.</p>
August 03, 2019	3.0	<p>Embedded document ‘Pidocumentation_V2.0’ updated for inclusion of environment variables pertaining to Proxy Settings.</p>
August 31, 2019	4.0	<p>Embedded document ‘Pidocumentation_V3.0’ for configuration of INFINET IP</p>
March 04, 2020	5.0	<p>PI Phase 2 Configuration and Implementation.</p> <p>Participant Interface (PI) Phase 2 enables system-to-system integration between Participants’ internal systems and the FX Retail Web Platform.</p> <p>Section 4 – The Participant Interface has been updated to reflect the changes for PI Phase 2</p> <p>Embedded document ‘Pidocumentation_V5.0’ for PI Phase 2</p>

FX Retail Web Platform

Document Purpose and Intended Audience

This document outlines the pre-requisites at member banks in order to use the FX Retail Web platform. The IT Department at Member Banks is the intended audience for this document.

Introduction

The FX Retail Web platform provides an anonymous and order driven dealing system in the USD / INR currency pair for customers of banks. Customers can access the platform through a web based application (details given below) and place buy/sell orders as per their requirement.

The existing FX-Clear platform would continue to be used by banks in the interbank segment. This application has been enhanced to meet the additional functional requirements and anticipated higher volumes due to retail participation.

The FX Retail Web platform was released in Production as per the following schedule:

Module	Go-Live Dates
Registration	July 01, 2019
Trading - Web-based frontend for Retail Customers & Banks (Retail Web Front End) - Interbank Dealer Work Station (exe) and Dealer Access Point (DAP) enhanced for deployment at Member end	August 05, 2019

1. Retail Front End (RFE)

Usage of the Retail Front End (RFE) by members is required for various business functions such as Customer Registration Approvals, Limit Management, setting business parameters such as Mark Ups and Swap points, apart from trading functionalities.

- The RFE can be accessed using the URL <https://www.fxretail.co.in>
- In restricted environments, the Bank / Customer should open required firewall / proxy rules to access the above URL using port 443.
- The application currently works best on below mentioned PC based browser versions
 - Chrome 45 or above
 - IE 11 or above
 - Firefox 55 or above
- In-case of Chrome browser please set the “Autofill” parameter to OFF in the browser’s settings.

The authentication technique in the FX Retail Web Platform is two factor based:

- User Id and Password
- OTP (One-time password)

The application sends Login OTP and various auto generated emails to the registered email id of the users, and OTP and transactional messages via SMS to the registered mobile phone numbers. The emails originates from the below email ids:

- No-reply@txtapi.com
- FxNoReply@ccilindia.co.in

The above email ids should be explicitly allowed in case of a restricted environment.

Help and Support

- On the login page, a detailed help file is available to guide new comers though the registration process.
- Support for customers registering on the platform would be provided by FX-Retail Support (1800 266 2109 – Toll Free, +91 22 61546313 – Monday to Friday from 8:00 AM to 7:30 PM, Email: supportfxretail@ccilindia.co.in)

2. The Interbank Dealer Work Station

There is no change in topology / environment and pre-requisites of the interbank dealer workstation installed at member’s end. However during go-live of the retail system, the existing FX Clear trading application has been replaced with a new version. The setup is available on Report Browser application. **Additional Hardware (PC) Requirement**

An extra PC will be required, on which the Dealer Workstation (exe) would be installed. This additional PC would be used for downloading trades done by customers of the member with other banks or customers of other banks (i.e. deemed interbank trades). A separate user with appropriate privileges would be provided access to this facility. This user referred to as the Dummy user needs to be logged into a separate instance of the FX-CLEAR Dealer Workstation (DWS) at Member premises. This Dummy user needs to be logged in daily for the purpose of generation of CSVs of the deemed trades.

Deemed trades are the Inter-bank trades arising out of Customer Trades which would be tagged to a Dummy user. For e.g. a trade between Customer of Bank ABC and Customer of Bank XYZ would result in an interbank trade for Bank ABC and Bank XYZ. Both Bank ABC and Bank XYZ would receive CSV files tagged to their respective Dummy user. Each Member shall be provided with the Dummy user details. These CSV files shall contain the trade information in the form of 2 legs i.e. first leg showing counterparty information as CCIL and second leg showing counterparty information as the Branch where the Customer belongs to. This Dummy user shall have a View only profile of the FX-CLEAR DWS.

FIX Gateway (Applicable only to members using FIX API)

There are no environment/infrastructure changes for member banks to interface with the FIX gateway. Member banks are encouraged to test their applications with the new version of the FIX API.

3. Mock Testing

The Retail FX Retail Web-based platform and FX Clear Trading Platform is available to members for Mock Testing since July 15, 2019. Members are strongly encouraged to participate in the Mock Testing, so that they may familiarize themselves with the new functionalities.

The URL for web-based mock retail trading platform is

<https://mock.fxretail.co.in>

The respective rules needs to be enabled for receiving mock testing OTPs and emails as mentioned in point no. 1.

For the FX Clear Trading Platform (Dealer & DAP), Kindly note that additional ports would need to be opened for communication with the CCIL FX Clear host system in the Mock environment. Details of IP addresses and port numbers as provided in the attached file.

It is advisable to create a fresh environment to conduct mock testing, as per the document named "FX_Clear_Retail_System_Requirement_DWS_V1.doc" attached herewith



FX_Clear_Retail_Sys
tem_Requirement_DV

4. The Participant Interface (PI)

The Participant Interface (PI) utility facilitates real time sending of trade information in CSV and FIX formats from Clearcorp to the participants (members), so as to enable post trade data to be provided to members for subsequent integration with the member's internal systems.

As part of PI Phase 2, the PI component continues to reside in the premises of each participant (Banks & Corporates), that connects to the ClearCorp FX Retail Front End through a Retail API Gateway at the ClearCorp end.

The Bank/Customer Internal System (BIS) is a software component that resides in the premises of each participant (Member Banks or Customers as the case may be) to integrate with FX-Retail Participant Interface for upload (Customer approval, Limits, Mark-ups, Swap quotes) & download (Trades) data in real-time. Please be guided by the mail communications which are being sent regarding PI Phase 2 or contact the CCIL FX-Retail Support team (1800 266 2109 – Toll Free, +91 22 61546313 – Monday to Friday from 8:00 AM to 7:30 PM, Email: supportfxretail@ccilindia.co.in) or CCIL IT Helpdesk (022- 61546250) for further clarifications.

Overall Architecture

The architecture of the Participant Interface (PI) utility is as follows:

- It is a client server setup between PI client and API server and PI client and BIS.
- The PI client and BIS resides at the member's end
- The API server resides at Clearcorp's end
- The connectivity between the PI Client and the API Server take place over internet OR through INFINET for member banks.
- The connectivity in the above case would be established through bi-directional Port 443
- The connectivity between the PI Client and the BIS will take place over TCP or HTTP.
- The connectivity in the above case would be established through bi-directional user defined Port. The same can be configured in the Environment variables.
- Currently only one PI Client and one BIS installation is permitted per member.
- The PI Client would accept transaction (trade) messages being pushed from the PI server in real time.
- The PI client would in turn create the CSV files and place it in the folder of the same Server where the PI client resides.
- The bank system can use these .CSV files for onward processing at their end.
- Along with the above functionality, PI Phase 2 provides additional functionalities between the BIS and RFE through PI.

- These additional features will allow the member banks to upload (Customer approval, Limits, Mark-ups, Swap quotes) & download (Trades) data in real-time through BIS.
- Also PI Phase 2 will provide additional features to corporate customers to download (Trades) data in real-time through BIS.

Pre-Requisites

S.No.	Description	Configuration
1	Server on which the API Client will reside (2 no. - 1 for Primary 1 for DR)	<p>Hardware Configuration Quad core Xeon 2.66 GHz or higher 8 GB RAM or higher 300 GB HDD or higher</p> <p>Software Configuration Windows Server 2012 R2 Standard Edition or higher JRE 8 update 211 or higher Apache Server 2.4.39 or higher</p>
2	PI Prod URL (Internet)	Pi.fxretail.co.in
3	PI Mock URL(Internet)	Pimock.fxretail.co.in
4	Internet IP Prod	103.113.150.85 - (Dadar Primary) 103.113.151.83 - (Kurla Near DR)
5	Internet IP Mock	103.113.150.86
6	Internet Bandwidth	2 mbps or above.
7	INFINET IP Prod	10.30.84.82 - (Dadar Primary) 10.31.84.98 - (Kurla Near DR) 10.19.84.44 - (Pune Far DR)
8	INFINET IP Mock	10.30.84.28
9	INFINET Bandwidth	2 mbps or above.
10	Public key infrastructure (PKI)	<p>Class 3 certificate - .pfx& .cer files</p> <p>Note:</p> <ol style="list-style-type: none"> 1. For member banks, this certificate is to be obtained from IDRBT 2. For customers, Digital Certificate should be obtained from a Certifying Authority who is licensed by Controller of Certifying Authorities, Government of India. 3. The .pfx file needs to be extracted from the certificate

- Server hosting the PI client should preferably be located in the DMZ of the member organization who wish to connect over Internet
- The member bank will have to procure a Class 3 system digital certificate from IDRBT and upload their .CER file on the FX Retail Web Platform. Details of how to upload .CER files is included in the attached PI Configuration Document below.

Set up and Configuration

- The member banks would need to download Clearcorp's .CER file and place it in the specified folder of the Server where PI client is installed.
- Member Banks will have to place their private key (.pfx) in a specified folder on the Server where the PI client is installed. The .pfx file needs to be extracted from the certificate.

Please refer to the attached PI Configuration Document for more details on set up and configuration of PI Client.



PI Configuration
Document_V5.0.doc

The PI client application setup will be made available on the Report Browser application in due course.

- The BIS will have to be developed by the member banks at their end which will connect to PI client to perform the required operations.

Operation of the PI Utility

- There is no login and logoff to be done exclusively for PI Client as this process is automated.
- However, the member banks need to start the PI client by clicking on the batch file (as mentioned in the above embedded document).
- At start up, the PI client will register itself with the PI Server at Clearcorp
- The authentication between PI Client and Clearcorp PI Server, takes place using secure SSL and encrypted messaging service.
- During the market session, in the event of a trade concerning the member, the PI server at Clearcorp will push the trade details to the PI client in an encrypted format in real time. PI client in turn will create a .CSV file / FIX file and place it in a specified folder (please refer to the attached PI Configuration Document).
- At the end of market session, a trade reconciliation message having all the trades done concerning the member bank will be pushed to the PI client at the member's end in one consolidated file in a separate folder (please refer to the attached PI Configuration Document).
- Along with the above functionality, PI Phase 2 provides additional functionalities between the BIS and RFE through PI.
- These additional features will allow the member banks to upload (Customer approval, Limits, Mark-ups, Swap quotes) & download (Trades) data in real-time through BIS.
- Also PI Phase 2 will provide additional features to corporate customers to download (Trades) data in real-time through BIS.

Exceptions and Recovery

- In-case the PI client goes down due to service stop or server shutdown, the PI client should be manually started up.
- In case PI client goes down or there is a network disruption, the PI server at Clearcorp will push all trade information which it was unable to send during the disruption, once the PI client is up / reachable.
- It is advisable to have a DR setup for the PI Client, in-case of an outage of the primary setup, anytime during the day; the PI client at the DR site of the member needs to be manually started up post which the DR site will start getting FX Retail trade information.
- In case of a BCP scenario at Clearcorp's end, there would be no change in the configuration of the PI client at the bank's end. The PI client will seamlessly connect to the secondary server at Clearcorp.
- In case BIS goes down due to any reason, the PI client is capable of sending all the business messages again from a particular timestamp asked by BIS.
