

AFFIRMXPRESS™

USER

TECHNICAL REQUIREMENTS

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Clearing Corporation***

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Introduction

The purpose of this guide is provide AffirmXpress™ participants (“AX Users”) with information related to the technological and system-related aspects of AffirmXpress™, including: system overview, minimum system requirements, connectivity setup, and AX User testing. AX Users that meet the requirements stated herein will be able to successfully schedule a “go-live” date.

AffirmXpress™ Overview

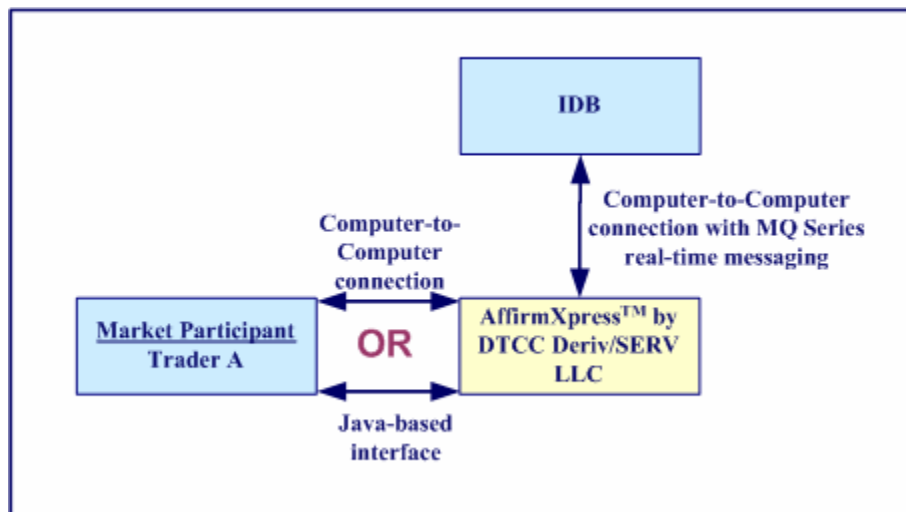
Participants, including both inter-dealer brokers (“IDBs”) and AX Users, will be able to access the system utilizing following methods:

IDBs

- Computer-to-Computer connection with IBM MQ Series real-time messaging (“MQ-to-MQ Connection”).

AX Users

- MQ-to-MQ Connection; or
- Java Client application.



Technology

AffirmXpress™ is built using FpML (Financial products Markup Language), the industry-standard protocol for financial products. FpML is based on XML (Extensible Markup Language), the standard meta-language for describing data shared between applications.

The IDB will send trade information via MQ to the AffirmXpress™ hub using an FpML message and, if applicable, will be able to leverage existing connections to DTCC. AX Users also can choose to fully automate their process, by sending and receiving messages via MQ. For AX

Users, minimal technology investment, if any, is required to operate AffirmXpress™ since all the functionality of the platform will be made available through the AffirmXpress™ GUI. AX Users may also use their own proprietary GUI.

Messaging

Each trade will be submitted by the IDB via two messages, one related to each party to the trade. The GUI will be a fully-functional front-end application, enabled for viewing and acting on IDB-submitted trades. AffirmXpress™ will then respond with an acknowledgment or query. The message can be rejected for FpML/business rule validation error or if the party named on the trade is not a DTCC-approved AX User.

Each AX User for a particular trade will either “Query” or “Accept” a transaction. Queried messages are sent from the AX User to the IDB for resolution. When each party for a particular transaction accepts their side, the transaction is “Done,” and can then be passed on to the back-office (or other AX User-approved areas of their institution) for future STP to the DTCC Deriv/SERV Auto-Matching.

Security

All data and messages will be sent over secure lines.

Log-in / User Access

Traders and other AX Users at each participant firm will be authenticated within the system through a designated user ID and password. Participants’ access coordinators will work with DTCC to control and properly monitor the process. In order to maintain the integrity of the system and ensure secure processing, users will be required to login to AffirmXpress™ for each session.

Minimum System Requirements

To connect to AffirmXpress™, the following can be used: 1) computer-to-computer messaging for exchanging and storing messages between DTCC, and 2) the Java Client Application.

Computer-to-Computer (MQ)

The minimum standards for using a computer-to-computer connection to access AffirmXpress™ are as follows:

- New or existing direct communications connection between you and DTCC
- Conformance to the following standards:
 - Messaging with WebSphere MQ capability
 - Financial products Markup Language (FpML)
 - Extensible Markup Language (XML) Schema Definition (XSD)
 - Simple Object Access Protocol (SOAP)

AffirmXpress™ GUI (Java Client Application)

The AffirmXpress™ GUI can be accessed with an internet connection. Minimum system requirements are as follows:

Processor: Pentium-class, 1 GHz

Memory: 1-GB RAM

Video: 1280 x 1024 resolution

Monitor: 17" color monitor

Modem: ISDN, T1

Operating systems: Windows NT, Windows 2000, Windows XP

Software: Java Web Start 1.5

CONNECTIVITY SET-UP

Computer – to –Computer - MQ Series (IDB's Only)

The communications interface involves software and hardware whose configuration must be coordinated on both DTCC's and the AX User's side. Therefore it is not possible to build a communications interface until technical staffs in both organizations have discussed and agreed upon the common technology that will be required.

The process to establish MQ connectivity with DTCC will be managed within DTCC Participant Interface Planning (PIP) along with the AX User's DTCC Relationship Manager, if any. PIP is a customer-focused group and is responsible for supporting all aspects of MQ and coordination of connectivity elements.

AffirmXpress User Completes and Returns Connectivity Form

PIP will start the connectivity process by completing e-mailing the "**External User MQSeries Information Form**". The form should be completed and returned to PIP via e-mail. The form contains general logistical information that will define an AX User's internal systems operating environment, and will be needed to properly establish connectivity. Should you have any questions when completing this document, please contact PIP Hotline at 212-855-8989.

Technology Conference Call

Upon receipt of a completed MQSeries Form, PIP will schedule a conference call with the AX User to review the provided information and to obtain additional information, if necessary. The conference call will also enable the AX User to ask and have answered any AffirmXpress-related questions.

Communication Lines, Hardware & Software

a. PIP will determine if an AX User can use existing DTCC connectivity or if additional lines need to be ordered. If new lines are needed, DTCC will coordinate this with the telephone service provider and provide the expected date of completion for installation of the communications lines. Note that a minimum of six weeks may be required for delivery and installation of a communication line.

b. In addition to the lines, DTCC will coordinate the ordering of all additional elements needed for upgrades or expansion of system configuration for connectivity, such as communication devices that support those lines, modems, routers, firewalls, communications controllers etc. AX Users should ensure that they identify all the necessary equipment needed at one time so it can be simultaneously ordered to save time.

Connectivity Testing & Setup

a. **Communications:** Equipment will arrive, technical staff and vendors will perform installation and configuration tasks, and communications engineers will conduct certain hardware tests.

b. **Systems:** Before physical installation is completed, systems software specialists at both DTCC and the AX User will set up their device definitions and addressing. If an AX User has ordered any software (such as file transfer software), it should be installed by the AX User's IT staff and tested as part of this activity.

AffirmXpress™ Java Client Application

AffirmXpress™ is a service also accessible through a Java Client Application, which requires workstation admin rights for proper installation.

AffirmXpress User Completes and Returns Access Coordinator Form

AX Users start the AffirmXpress™ Java Client Application connectivity process by completing the "**Access Coordinator Authorization Form**", which is available in the Membership Package, or upon request to DTCC. This form sets out the responsibilities and obligations of the firm and Access Coordinators. Each AX User must execute and return an Access Coordinator Authorization Form to a DTCC representative for processing.

AFFIRMXPRESS USER TESTING

DTCC has created a region for AX Users to use for testing their system against controlled results. An AffirmXpress User test script has been created for AX Users to execute as a guideline to insure a timely transition, a common level of AX User system integrity and to provide safety and soundness within the system.

AffirmXpress™ Java Client Application

- a. The Java Client Application test is not mandatory, but is highly recommended in order for AX Users to become comfortable and familiar with all the functionalities.

- b. Testing of the Java Client Application can done using DTCC as a counterparty or, another AX User, if available. Testing of AffirmXpress™ will also require the involvement of an IDB, which DTCC can assist with.

- c. AX Users should contact DTTC, Gina S. Ghent (P: 212-855-5624, E: gghent@dtcc.com) or their Relationship Manager when ready for testing.

For more information on the MQ Technical Specification, please refer to the “MQ Standards” document.