



GFMA Global FX Division

GFXD recommendations for the promotion of interoperability between new technologies and service providers

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Background to the Global Foreign Exchange Division

The Global Financial Markets Associations (GFMAs) Global Foreign Exchange Division (GFXD) was formed in co-operation with the Association for Financial Markets in Europe (AFME), the Securities Industry and Financial Markets Association (SIFMA) and the Asia Securities Industry and Financial Markets Association (ASIFMA). Its members comprise 25 global foreign exchange (FX) market participants¹, collectively representing around 80% of the FX inter-dealer market². Both the GFXD and its members are committed to ensuring a robust, open and fair marketplace and welcome the opportunity for continued dialogue with global regulators.

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¹ Bank of America Merrill Lynch, Bank of New York Mellon, Barclays, BNP Paribas, Citi, Credit Agricole, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JP Morgan, Lloyds, Mizuho, Morgan Stanley, MUFG, NatWest Markets, Nomura, RBC, Scotiabank, Société Générale, Standard Chartered Bank, State Street, UBS, Wells Fargo and Westpac

² According to Euromoney league tables

Introduction

FX forms the basis of the global payments systems and as such the number of market participants and transactions are high. It is this diversity of participants that has led to the wide and varied technical solutions across the market.

Given the increased focus on the potential for new technologies to enhance market structure for wholesale global FX and related cross border payments, such as the provision of smart contracts, there is now growing importance to the interoperability of these new technologies and service providers.

In promoting wider interoperability between new technologies and service providers, we believe that a common understanding of the desirable business outcomes will complement ongoing technical developments which are intended to promote the goals of increased efficiency and cost management. This document aims to provide a set of considerations and recommendations in this regard, with the goal of promoting interoperability in mind.

The GFXD is keen to promote interoperability through engagement with the industry including the provision of payment smart contracts, commencing with the publication of this paper. We note that the development of such smart contracts could provide benefits in relation to certain principles referenced within the FX Global Code³, such as those relating to Confirmation and Settlement, and Risk and Compliance.

In drafting this document, we have identified several assumptions and aspirations which we believe are fundamental in the consideration of new technologies/services within the area of global FX and cross border payments and we draw attention to the strong reliance on effective and interoperable protocols.

Assumptions and Aspirations

- **We believe that there will be multiple ledger-based protocols which will need to be considered as part of a smart contract interoperable framework;**
- **We believe that there will be unique as well as shared use cases and solutions across firms, solution providers and market infrastructures;**
- **We believe that consideration will be required for both asset class and regulatory variances;**
- **Data security and encryption are of the utmost importance;**
- **Market fragmentation can be minimised if interoperability is achieved; and,**
- **The record on the ledger must be immutable.**

³ https://www.globalfx.org/fx_global_code.htm

Section 1: General Interoperability considerations - *individual solutions will exist, and differing technologies will need to interact*

1. Ledger offerings should be interoperable across technologies and functional layers to ensure maximum efficiency.
2. A single representation of a transaction should be represented in one ledger only. However, firms are likely to use multiple ledgers in totality.
3. To facilitate interoperability across any number of ledger providers/ functionality providers, a standardised set of parameters should be utilized.
4. Interoperability parameters should include, but not be limited to:
 - a. Governance of services and provision of consensus/trust;
 - b. Smart Contracts facilitating business processes;
 - c. Data control including;
 - i. Data elements
 - ii. Trusted data sources
 - iii. Data security
 - iv. Encryption
 - d. Message types and formats;
 - e. Linkage of data across internal and/or external ledgers;
 - f. Networks; and,
 - g. Business models.

Section 2: Governance protocols – *consistency in rule-books and oversight will promote interoperability and efficiency*

1. Providers recognise and adhere (where appropriate) to the Committee on Payments and Markets Infrastructures (CPMI) Principles for Financial Market Infrastructures (PFMIs)⁴.
2. Governance protocols are established to enable:
 - a. Appropriate funding;
 - b. Oversight;
 - c. Current versus future functional development requirements;
 - d. Current versus future membership/permission requirements; and,
 - e. Regulatory compliance.
3. Protocols are established to determine when and how consensus is reached on the appropriate data and that the data is immutable.
4. Protocols are established to facilitate the linkage of data.
5. Protocols are established to demonstrate legal certainty (including finality of settlement) so that accountability can be apportioned in case of dispute.

⁴ https://www.bis.org/cpmi/info_pfmfi.htm and <https://www.bis.org/cpmi/publ/d101a.pdf>

Section 3: Smart Contract Functionality – *as firms may use multiple ledgers, efficiencies will depend on interoperable smart contract functionality*

1. Protocols are established for smart contract functionality. Initial expectations are that for FX this will be at a minimum:
 - a. The generation of FX payment cash flows; and,
 - b. The generation of FX NDF fixes and subsequent cash flows.
2. Protocols are established for FX trade actions, for instance FX NDF fixings.

Section 4: Data Control – *processes are established to ensure that sufficient oversight is developed on the use of and management of the use of data*

1. Protocols are established to define data controls to establish what data is captured, what security processes are in place (e.g. encryption and noting there may be jurisdictional considerations on privacy) and how future use and further processing of data is defined and controlled.
2. Protocols are established to identify where any data resides (e.g. jurisdiction) and who can access the data. It is critical that data ownership is clear.

Section 5: Data elements – *the identification and use of common data standards is fundamental to the promotion of interoperable solutions*

1. Smart Contract Data should consist of a minimum standardised set of data attributes, where preferable taking advantage of already established industry-wide standards.
2. When generating FX payment cash flows and FX NDF fixes, we suggest the following smart contract data attributes as the minimum set of data attributes, noting that this list is not exhaustive:

Number	Spot	Number	NDF
1	Product Type	1	Product Type
2	Currency 1	2	Currency 1
3	Currency 1 Notional	3	Currency 1 Notional
4	Currency 1 Buyer	4	Currency 1 Buyer
5	Currency 2	5	Currency 2
6	Currency 2 Notional	6	Currency 2 Notional
7	Currency 2 Buyer	7	Currency 2 Buyer
8	Rate	8	Settlement Currency
9	Settlement Date	9	Forward Rate
10	Counterparty ID	10	Valuation Date
11	Distribution Channel	11	Settlement Date
12	Timestamp of Event	12	Settlement Rate Option
13	Link to Originating Contract	13	Counterparty ID
14	Trader ID	14	Distribution Channel
15	Sales ID	15	Timestamp of Event
16	Sales Trade Mark-up	16	Link to Originating Contract
17	Order Management	17	Trader ID
18	Ledger ID	18	Sales ID
		19	Sales Trade Mark-up
		20	Order Management
		21	Ledger ID

Section 6: On-chain representations – *whilst being use-case specific, data should be validated before being allowed onto the ledger*

1. For a transaction to be eligible for the ledger ('on-chain'), and therefore be included on a single ledger as a smart contract, the transaction should be initially validated against a series of 'pre-ledger checks'.
2. The data representation for those checks should comply with a pre-defined set of standards.
3. This will enable a consistent understanding of that data between both parties to the transaction and therefore facilitating consensus (trust) and enhanced recordkeeping.
4. The FX Global Code provides in its Confirmation and Settlement and Risk and Compliance sections principles which may be of value when determining pre-ledger checks. Examples of pre-ledger checks therefore include, but are not limited to:
 - a. Know Your Client (KYC) and credit limits;
 - b. Product and currency;
 - c. Trader mandate;
 - d. International Swaps and Derivatives Association (ISDA) master agreement;
 - e. Sanctions lists;
 - f. Standard Settlement Instructions (SSIs); and,
 - g. ISDA Credit Support Annex (CSA).

Contacts

For queries about this document, please contact:

- Andrew Harvey / aharvey@gfma.org / +44 (0) 203 828 2694
- Fiona Willis / fwillis@gfma.org / +44 (0) 203 828 2739