Internet Financial EXchange (IFEX)

Requirements

Problem Statement

Certain functionality required by modern financial systems is not presently available in open, legacy-free, adequately globalized protocols.

This functionality includes:

* Settlement and reversal / cancellation term negotiation
* Exchange rate negotiation
* Latency calculation / negotiation
* Fee, tax and discount calculation / negotiation
* Arbitrary currency / asset support
* Multi-currency / asset transaction support
* Quotation support
* Multiple settlement path support
* Optional support for in-band settlement (sometimes known as DVP)
* High precision decimal value support
* Arbitrary financial settlement topology support
* Arbitrary communications topology support

Given this situation, it makes sense to propose an open, legacy-free, adequately globalized, extensible protocol for internet-based financial exchange.

Use Cases

Primary Use Cases
Primary use cases may include the following:

* Internet transactions between parties with no prior relationship, where identities and credit are potentially based directly upon participation-driven, agovernmental community mandate and irrespective of physical legal jurisdiction(s). (For example via [BITCOIN], [CES] or [RIPPLE])

* The owner of market-consolidated assets such as corporate stocks negotiating their sale on a market or off-market alternate trading system (ATS) or electronic communications system (ECS), possibly via one or more brokers.

* Notification to various bank systems of the physical deposit of various denominations of a conventional currency at an automatic teller machine (ATM) against an existing account.

* A direct debit instruction sent from a merchant to a particular customer's bank, including reference authorization information, possibly via a payment processor, describing an amount to be debited from the customer and credited the merchant or a third party.

* A consumer to bank/broker request for the purchase of one

conventional currency asset with another (foreign exchange service). In addition, prerequisite quotation services.

* Consumer to bank/broker request for quotation on the delivery of assets to a third party account (identified via [IIBAN], [IBAN] or some other means) elsewhere in the world. Responses to such requests may include multiple viable settlement paths with differing fees, temporal parameters (execution speed, availability), reversal/cancellation terms, legal jurisdiction traversal, etc.

Edge Cases

Research in to existing protocols and their ecosystems highlighted the fact that various non-core functionality often occurs alongside financial transaction negotiation processes.

Such functionality includes:

* Transaction description/notification (as opposed to negotiation)

* Notifications and messaging variously regarding financial assets, transaction status, financial parties and systems.

  Classic examples include corporate action announcements sent to markets, stock split or shareholder meeting notifications, and market-wide or instrument-linked trade suspension and resumption.

  (Certain situations such as dividend cash payout/re-investment preferencing may require two way messaging and as such exceed a pure 'notification' notion.)

* Shareholder transparency inquiry procedures in which a series of tiered requests and responses regarding asset ownership information may be triggered by a market authority.

The approach taken in the design of IFEX has been to increase the descriptiveness of the base protocol to reduce the number of such edge cases where possible. (For instance, market availability may be described as part of the temporal parameters of a financial settlement path.)

Soft Requirements

Soft requirements include:

* Maximizing the number of potential of problem domains for which the protocol may be successfully deployed. (Best seen by way of contrast with established protocols' general industry segment orientation, eg: FIX's market orientation, OFX's consumer orientation, and SWIFT's institution orientation.)

* Minimize assumptions regarding protocol transport, security encapsulation, and pre-existing trust relationships. (Flexibility in this area allows for the establishment of trusted channels with minimal wire-level overheads to support potential deployment to highly latency-sensitive environments such as high frequency trading (HFT) systems.)

Comments