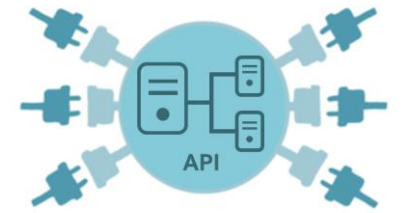


Trading via Application Programming Interface (API) on HUPX Intraday Market



What is an Application Programming Interface (API)?

Application Programming Interface (API) is a communication channel which allows market participants to send and receive specially formatted and standardized messages to and from our trading system. Trading via API allows participants to automate their trading processes and / or download trading data from the M7 system automatically.



Purpose and benefits of trading via API

- ▶ Continuous monitoring of Market and response to changes automatically
- ▶ Possibility to program an own trading strategy and react quicker than other Market Participants
- ▶ Manual actions by traders are not needed anymore
- ▶ Availability of public trade, order és cross-border capacity reports for analysing market activity



Communication with the backend system via a programmable interface

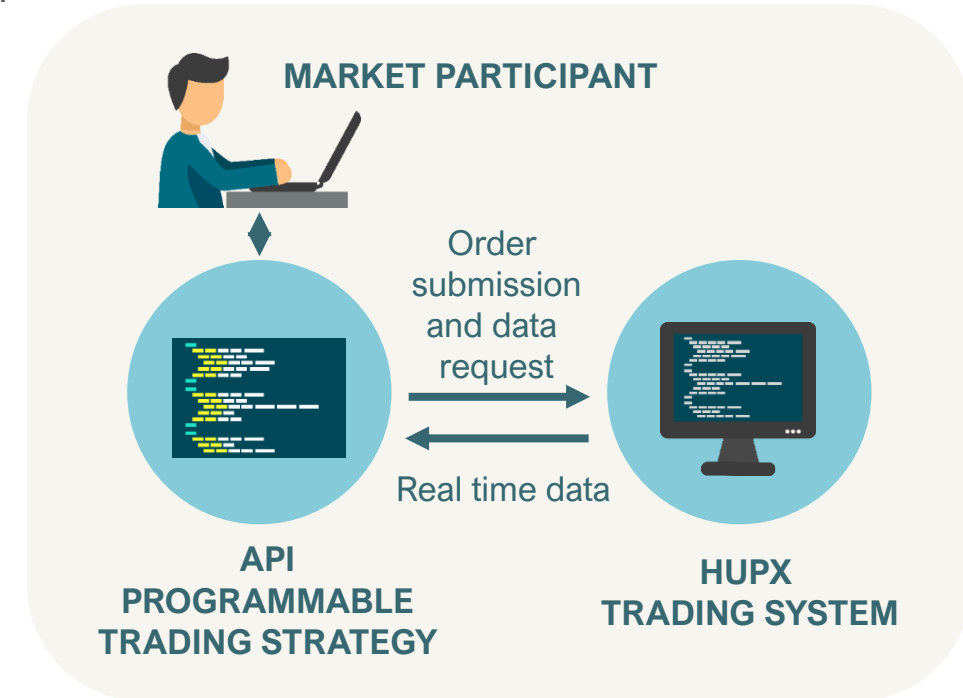
- ▶ Communication is based on Advanced Message Queuing Protocol (AMQP)
- ▶ AMQP is a wire-level protocol that enables message-based communication

Request-response communication

- ▶ Client issues a request and waits for a response from the backend system
- ▶ Each response message is addressed to a specific client (the one that issued the request)

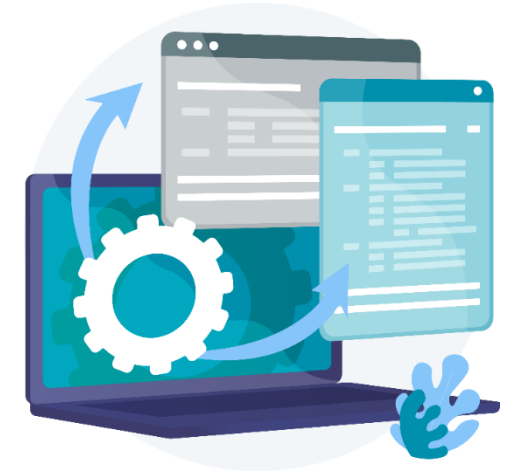
Broadcast communication

- ▶ The backend system publishes notifications that are either public – addressed to all traders - or private - only receivable by privileged traders
- ▶ Clients may subscribe to receive notification broadcasts that they are interested in



Management requests, reports (for automatic trading)

- ▶ Used to enter, modify or delete orders or trades in the backend system
- ▶ **Order Entry:** enables a trader to send up to 100 orders at once to the backend for execution
- ▶ **Order Modify:** used to modify one or several orders
- ▶ **Order Execution Report:** sent by the backend system as a response to an Order Request
- ▶ **Trade Capture Request:** used to retrieve trades created during the last x days



Inquiry requests, reports (public information for better view on market, market analysis)*

- ▶ Provide market or reference data which is accessible to the client
- ▶ **Public Order Books Request:** used to retrieve the local view of the public order books
- ▶ **Public Trade Confirmation Request:** used to retrieve a list of public trades executed during a specified period
- ▶ **Hub to Hub Request:** used to retrieve the Hub-to-Hub ATC matrix from XBID – cross border capacity info

*Accessible in ComTrader trading system pressing Alt+Ctrl+R

Broadcasts (monitoring the trading system and its operation)

- ▶ **Heartbeat:** sent in regular intervals allowing the clients to monitor the availability of the backend system
- ▶ **Market Data:** informs clients about changes within the current market
- ▶ **Reference Data:** informs clients about any changes to the reference data



How to get started

- ▶ DFS180 Public Message Interface document includes all the details about API connection
- ▶ Schema xsd files contain examples for XML messages
- ▶ Files are available on HUPX SFTP Intraday folder



Support

- ▶ Possibility to test in SIMU environment (HUPX membership is not mandatory)
- ▶ HUPX support on weekdays between 9:00-17:00 at idmarketops@hupx.hu



How to Go-Live in PROD environment

- ▶ Requires successful compliance test
- ▶ Login credentials are provided within 1 day after application



Independent Software Vendors (ISV)

- ▶ Provide software with real-time interface to HUPX Intraday trading system (M7) through API
- ▶ Read only user: retrieve market and trading data on real-time basis
- ▶ Read & write user: retrieve market and trading data on real-time basis and possibility to submit orders

Trayport VisoTech GmbH - contact@visotech.com

PowerBot GmbH - office@powerbot-trading.com

Value Germany GmbH - sales@likron.de

For more information please check our webpage: <https://hupx.hu/en/membership/software-vendors>

Technical and Compliance Testing

- ▶ Prior to the first connection to the production Trading System HUPX requires Members having access to trading system via API to participate in compliance testing to verify that the trading processes work properly.



Technical and Compliance Testing

- ▶ The compliance test covers – inter alia – the testing of the following main functions:
 - ▶ General system requests and responses,
 - ▶ Order entry function including entering modifying and cancelling various orders into trading system,
 - ▶ Trading function and all relevant business data flow,
 - ▶ “Panic button”: member is able to revoke its active orders immediately if necessary,
 - ▶ In the frame of compliance testing member shall declare that its trading system is suitable:
 - ▶ to handle basic to exceptional market circumstances;
 - ▶ avoid to submit unnecessary amount of orders.

How to apply for an API connection

- ▶ Contact HUPX Membership Team on the following e mail address: membership@hupx.hu
- ▶ Fill in and send back the D04c form
- ▶ The fee of the API function is 166 € + VAT / month



**1. CONTACT OUR
TEAM**

**2. FILL IN THE
FORMS**

**3. DO A COMPLIANCE
TEST**

**4. BECOME AN
API USER**