

The **leader** in **institutional digital asset trading** and **execution** for **banks**



# AlgoTrader & WIRESWARM

## AlgoTrader – The Company

- Providing Enterprise Algorithmic Trading solutions for over 6 years
- Full Support for Traditional Assets as well as Digital and Crypto Assets
- Over 100 successful Client installations
- Over 120 client-specific Algorithmic Trading strategies developed and deployed
- Strong implementation and support team
- Global 24x5 Support

## Our partners



## WIRESWARM – The Solution

- ✔ Crypto & Digital Asset Order & Execution Management platform
- ✔ One single FIX connection to gain access to multiple liquidity venues
- ✔ Order Entry via WIRESWARM UI or via upstream core banking systems
- ✔ Advanced Execution Management: SOR (Smart Order Routing) and Execution Algos capability
- ✔ Support for 20 major Crypto liquidity providers\*
- ✔ Deployed on-premise to ensure privacy of order flow and Private Keys
- ✔ High-performance: Supports over 1,000 orders per second

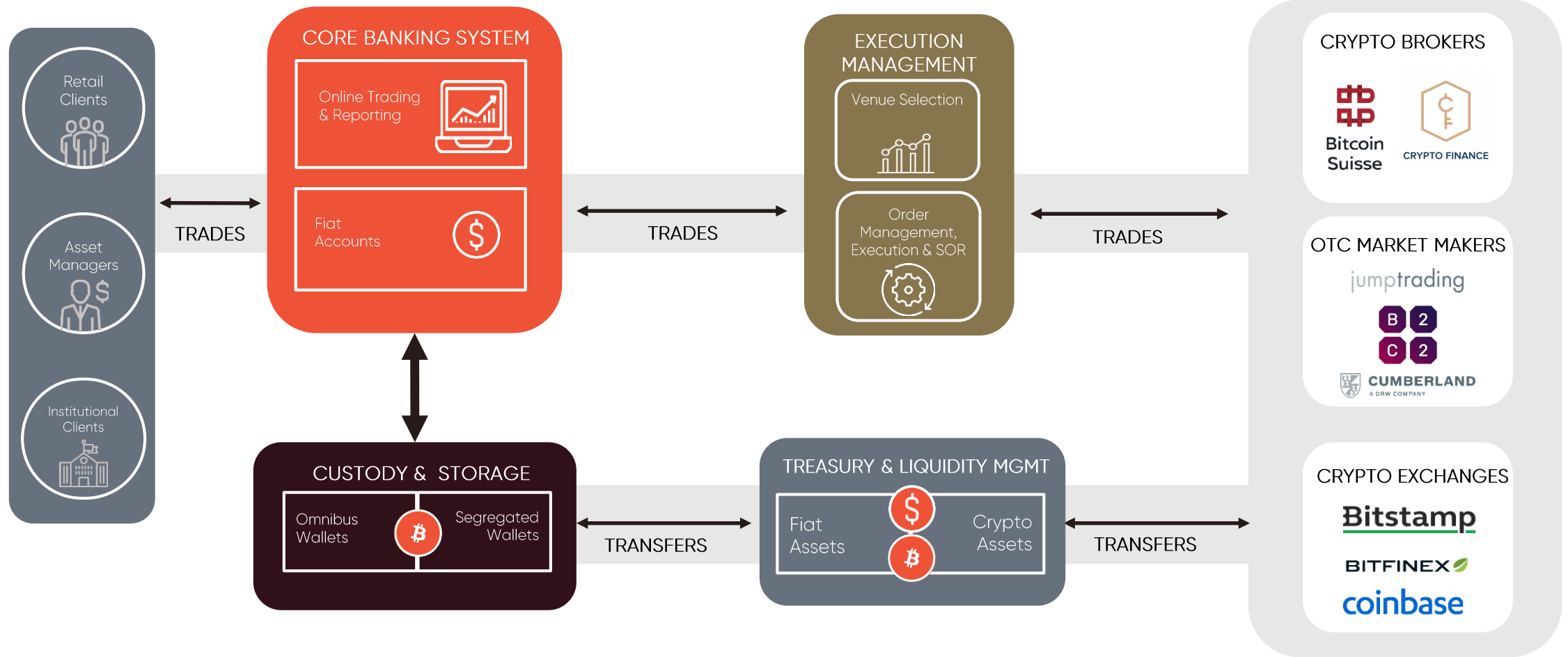
# The digital asset challenge

- ❖ Institutional and Retail Bank customers are asking their Banks to provide secure services for storing and trading of Crypto and Digital Assets.
- ❖ Many Banks have completed their feasibility studies and are in the process of setting up the technology infrastructure.

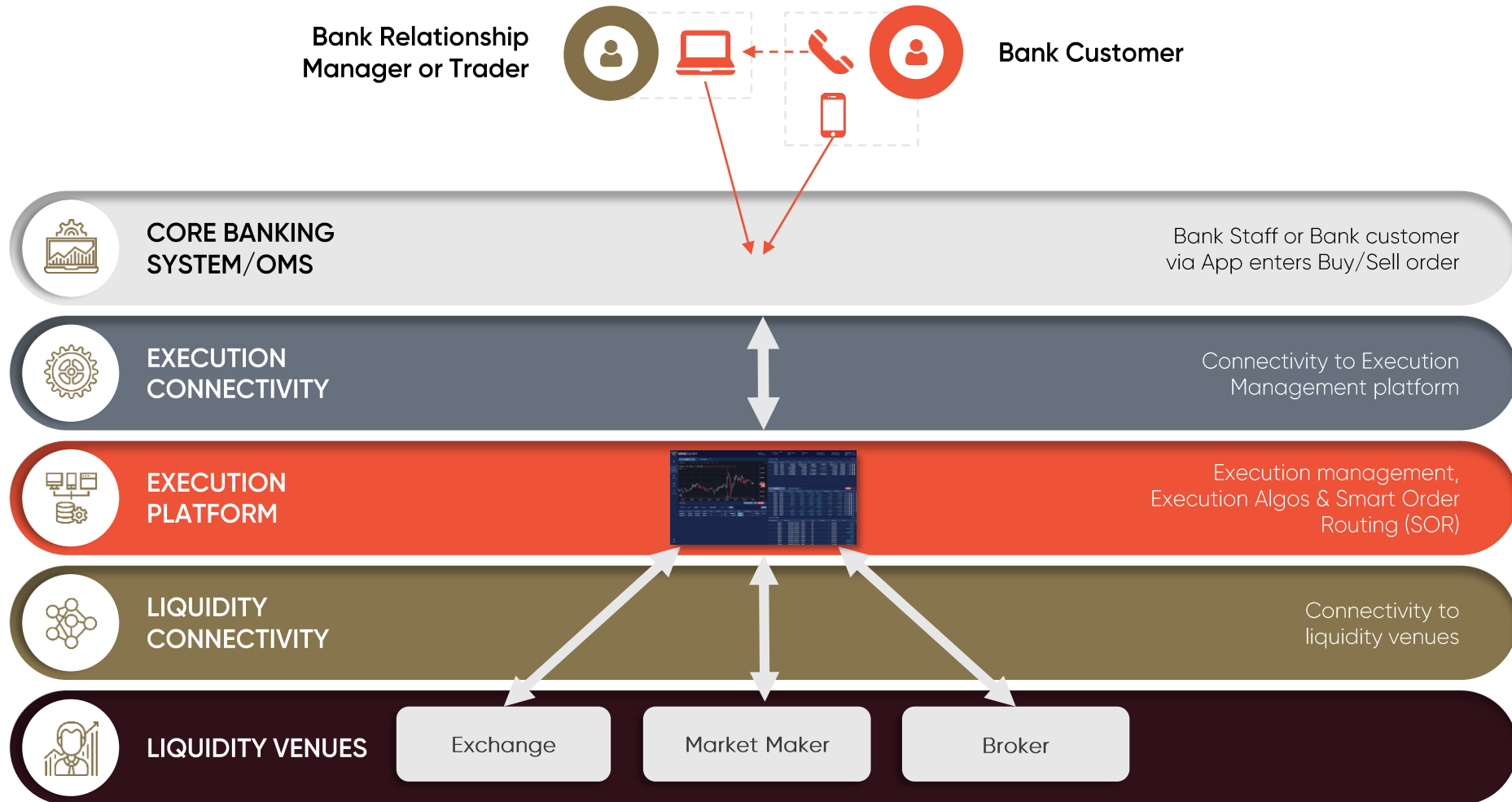
## Banks typically require the following technology components:

- ❖ Core Banking System or OMS:  
Trading of Crypto and Digital Assets (STO's)
- ❖ Execution Management:  
Ensure best price executions from liquidity venues
- ❖ Settlement:  
On-Chain and Off-Chain of Fiat and Crypto Assets
- ❖ Custody & Storage:  
High-Secure storage of transfer of Crypto Assets

# Digital asset & crypto technology architecture



# Best execution workflow





# Questions banks are asking

**1. Are clients demanding crypto currencies or digital assets?**

Today mostly crypto currencies as digital assets are yet to be fully released

**2. How do I ensure I get the best possible execution price?**

By connecting to multiple liquidity venues at same time and using execution algos in combination with a smart order router (SOR)

**3. What types of trading venues are available today and what cost structure do they offer?**

Exchanges: 0 to 25 basis points

Brokers: 50 to 200 basis points

Market Makers: 10 to 30 basis points

**4. Do crypto liquidity venues support standard FIX interfaces?**

Very few support FIX. Most exchanges support Rest or Web Socket protocols only

**5. How long is it going to take to integrate a non FIX crypto exchange?**

At least 1-2 months

**6. Are these exchange interfaces stable enough for a reliable operation?**

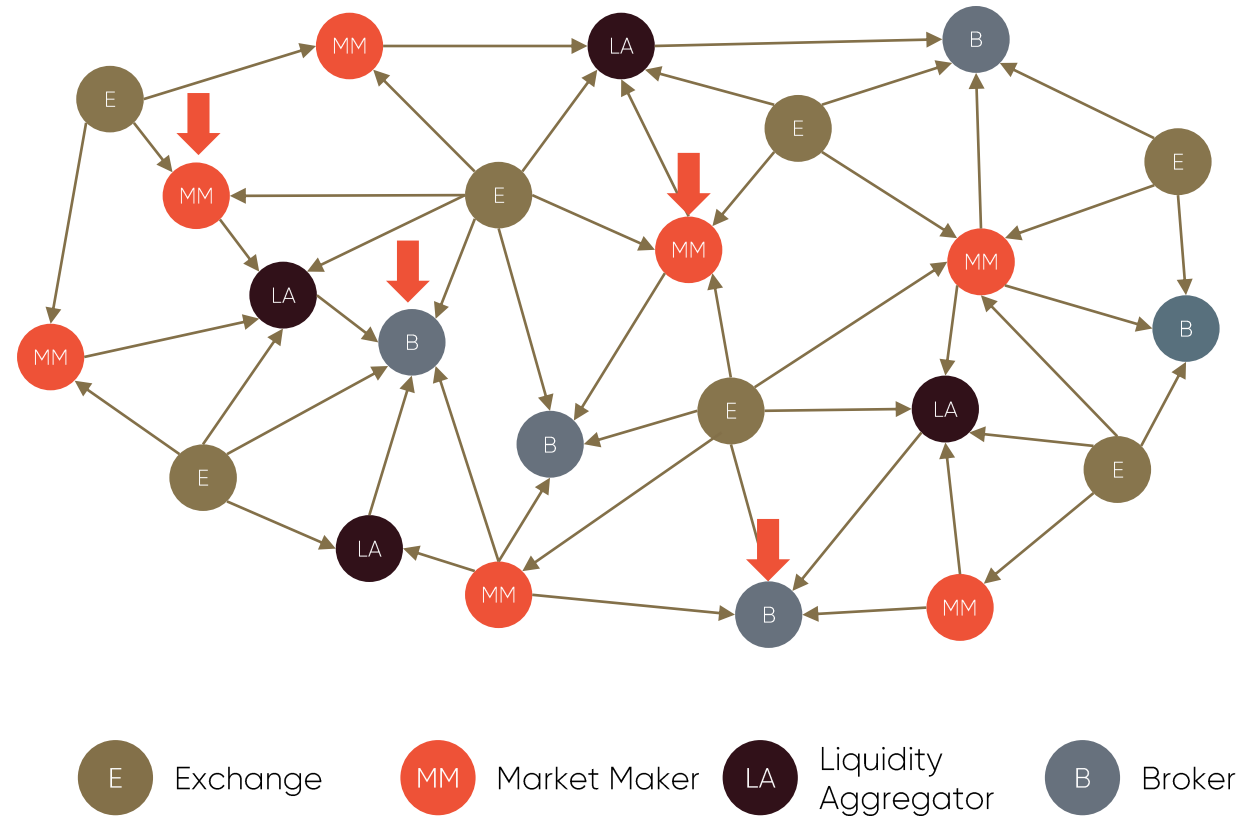
Typically not, unannounced interface changes and down times are very frequent

**7. What is the best option for safe-keeping of digital assets?**

Use enterprise grade custody solution or a fully licensed custody provider

# Accessing crypto liquidity

- Crypto Liquidity is very fragmented (over 350 exchanges)
- Crypto landscape can be viewed as a network of liquidity sources and consumers
- Many players do not disclose their sources of liquidity
- To achieve best price executions network needs to be entered at multiple places
- Market prices need to be compared and evaluated constantly

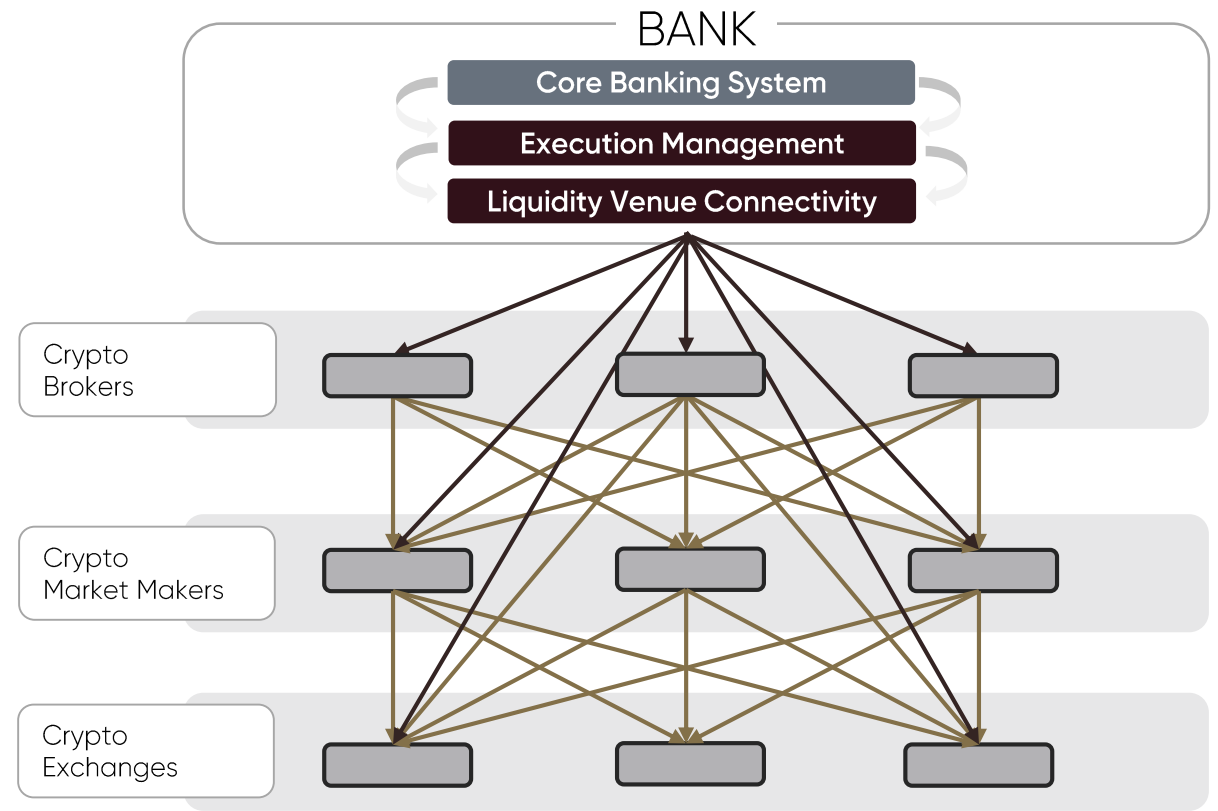


# Digital asset trading – the problem

## Banks will need to:

- ❖ Build connectivity to Core Banking Systems
- ❖ Implement an Execution Management system
- ❖ Build, operate & maintain connectivity to different liquidity venues

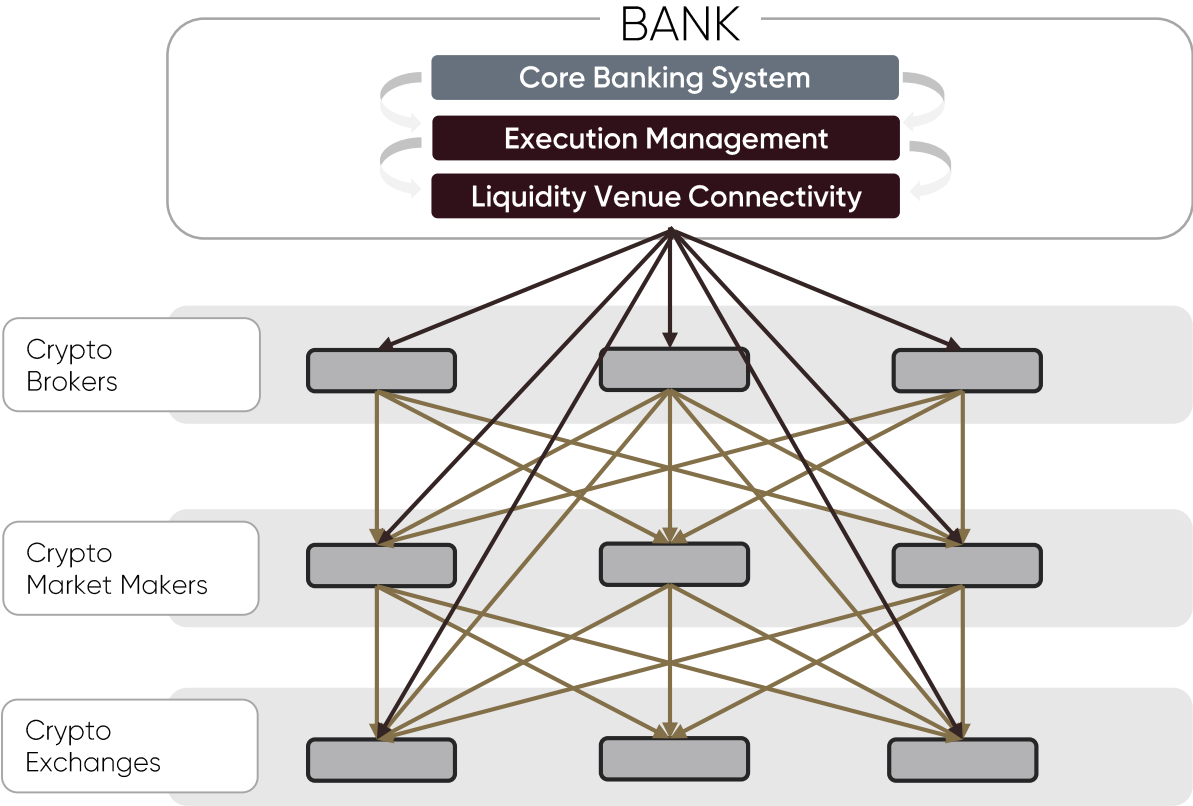
## WITHOUT WIRESWARM



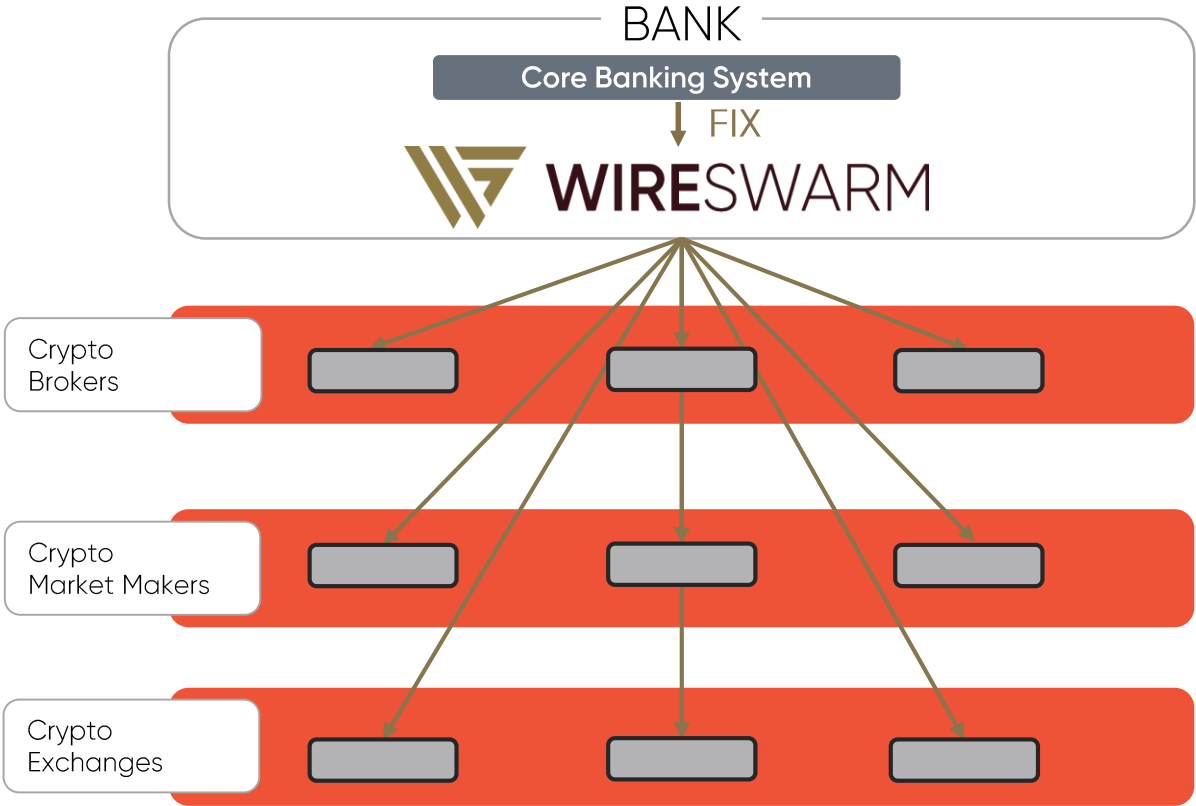


# One single FIX connection – the solution

WITHOUT WIRESWARM



WITH WIRESWARM



# What is WIRESWARM

Secure Institutional grade Execution Management platform allowing Banks to achieve best-price execution across multiple Crypto and Digital Asset liquidity venues.



## Connect

- Simple access to Crypto and Digital Asset liquidity with one single FIX connection.
- 15 of the major liquidity venues supported including leading Exchanges, Market Makers and Brokers\*



## Allocate

- Decide on your preferred venues to trade with depending on the order or client preference.
- Advanced Smart-Order-Routing (SOR) logic to seamlessly find the best offered prices across multiple venues.
- Full OTC capability including an automated RFQ (Request for Quote) process.



## Execute

- Use built-in Execution Algorithms (TWAP, VWAP, Iceberg, Sniper etc.) or build, deploy and operate proprietary Execution Algorithms to meet your specific needs.
- Full reporting and audit trail to meet regulatory requirements for best-price execution validation.
- Industrial-grade architecture to handle high trading volumes and guaranteed fast execution: >1,000 orders per second.

# How does WIRESWARM work



# 1. Order entry

## Order Entry via:

- Upstream systems e.g. Core Banking System or OMS
- Algorithmic Trading platform
- Direct via the UI

The screenshot displays the WIRESWARM trading platform interface. A central dialog box titled "Create new Order" is open, showing the following fields:

- Order type: Market
- Order properties: Fill default order preferences (DEFAULT)
- Side: BUY (dropdown menu is open showing BUY, SELL, SELL\_SHORT)
- Strategy: SELL
- Account Type: SELL\_SHORT
- Tif: (empty)
- Security: Security
- Account: TT
- Quantity: (empty)
- Exchange: (empty)
- Submit button

The background interface includes a dashboard with a chart for "Ethereum / Bitcoin 1 BINANCE", an "ORDERS" table, and a "TRANSACTIONS" table. The "ORDERS" table shows the following data:

O...	Int Id	Stra...	Sym...	Side	Qua...	Tif	Limit	Stat...	Fill...	Pro...
Limit...	sim168...	FOREX	EURGBP	BUY	10,600	GTC	0.87784	EXEC	10,600	
Mark...	sim168...	STOCKS	C	BUY	123	GTC	-	EXEC	123	
Limit...	sim168...	CRYPT...	BTCUSD	BUY	2	GTC	7,146.35	EXEC	2	
Limit...	sim168...	FOREX	GBPUSD	SELL	8,700	GTC	1.23058	EXEC	8,700	
Mark...	sim169...	STOCKS	AAPL	BUY	176	GTC	-	PART	11	

The "TRANSACTIONS" table shows the following data:

Exchange Na...	Date Time	Symbol	Type	Quantity	Strategy Name	Price
IDEALPRO	4/06/2020, 4:28...	GBPUSD	SELL	8,700	FOREX	US\$1...
SMART	4/06/2020, 4:28...	C	BUY	11	STOCKS	US\$...
SMART	4/06/2020, 4:28...	AAPL	BUY	7	STOCKS	US\$...
SMART	4/06/2020, 4:28...	AAPL	BUY	2	STOCKS	US\$...
SMART	4/06/2020, 4:28...	AAPL	BUY	2	STOCKS	US\$...
COINBASE	4/06/2020, 4:28...	BTCUSD	BUY	0.4236646	CRYPTOS	US\$7...
COINBASE	4/06/2020, 4:28...	BTCUSD	BUY	0.7881677	CRYPTOS	US\$7...
COINBASE	4/06/2020, 4:28...	BTCUSD	BUY	0.7881677	CRYPTOS	US\$7...
IDEAL PRO	4/06/2020, 4:28...	EURGBP	BUY	10,600	FOREX	US\$...

# 1. Order entry

## Full RFQ support

- Request Quotes from multiple brokers or market makers
- Automatically select the best Quote

The screenshot displays the Wireswarm trading platform interface. A central dialog box titled "RFQ Execution" is open, allowing users to configure their Request for Quote. The dialog includes the following fields:

- Pair:** A text input field with the placeholder "Pair".
- Accounts:** A dropdown menu with the instruction "Please select Security first."
- Request properties:**
  - Side:** A dropdown menu currently set to "BUY".
  - Quantity:** A text input field.
  - Strategy:** A dropdown menu currently set to "STOCKS".
  - TIF:** A dropdown menu currently set to "FOK".
- Submit:** A green button to execute the RFQ.

The background interface shows a dashboard with a chart for "Ethereum / Bitcoin" and a table of "ORDERS" with columns for Security, BUY, Market, Quantity, CRYPTOS, Account, and Margin. A "TRANSACTIONS" table is also visible at the bottom right.



## 2. Venue selection

- ❖ Select from the available Crypto & Digital Asset liquidity venues
- ❖ Ability to select venues either via WIRESWARM UI or surfaced in Core Banking or OMS deal entry system

The screenshot displays the WIRESWARM trading platform. A central dialog box titled "Create new Order" is open, showing the following configuration:

- Order type: Market
- Order properties: Side: BUY, Strategy: CRYPTOS, Account Type: Margin, Tif: (empty)
- Fill default order preferences: DEFAULT
- \* Security: BTCUSD
- \* Account: UBS
- \* Quantity: 100
- \* Exchange: KRAKEN (selected from a dropdown menu that also lists (default), CBOE, HKFE, YUNBI, QUADRIGACX, ICEUS, and BTCX)

The background interface includes a chart for "Ethereum / Bitcoin 1 BINANCE", an "ORDERS" table, and a "TRANSACTIONS" table.

# Supported liquidity venues

# 3. Order parametrization

## SOR (Smart Order Routing)

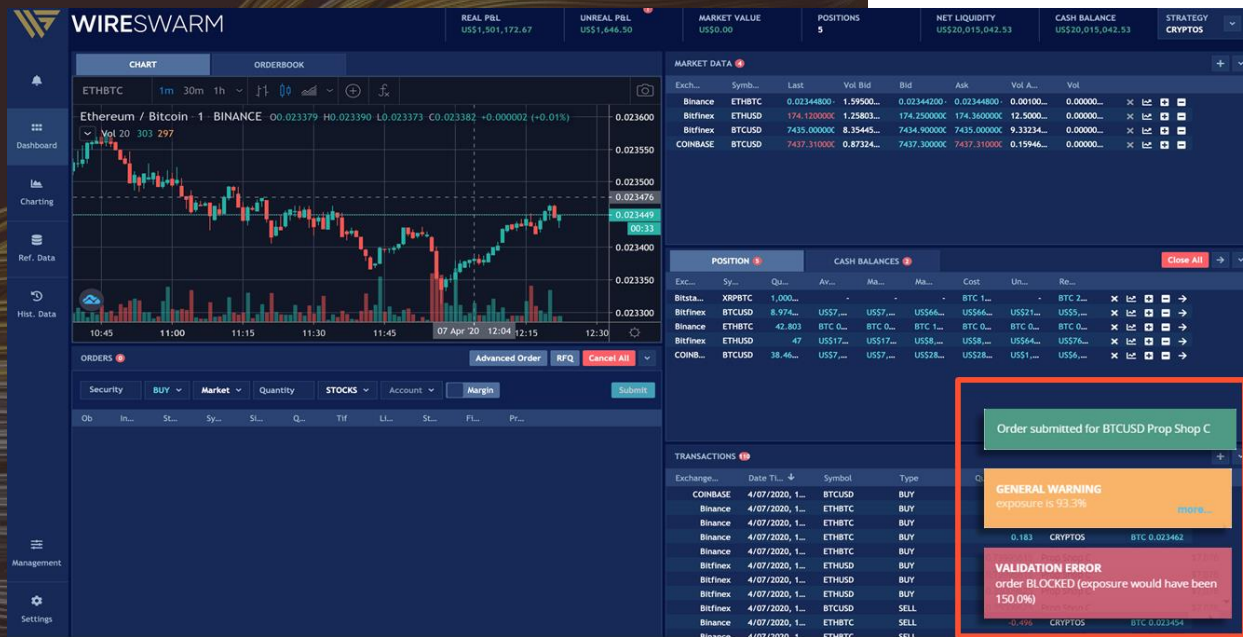
- Find best prices across multiple liquidity venues

## Execution Algorithms

- VWAP
- TWAP
- Iceberg
- Sniper
- Custom Algos

The screenshot displays the WIRESWARM trading platform interface. A 'Create new Order' dialog box is open, showing various order types and execution parameters. The 'Order type' dropdown is set to 'TWAP'. The 'Routing Policy' is set to 'TWAP\_AGGRESSIVE'. The 'Accounts' section shows 'B2C2' and 'BTS' selected. The 'Strategy' is set to 'CRYPTOS'. The 'Algo Order properties' section includes fields for 'Start Time', 'End Time', 'Duration', 'Max Vol Pct', 'Cancel Time', 'Qty Rand', 'Initial Offset', 'Max Offset', 'Min Slice Qty', 'Slice Length', 'Time Rand', and 'Min Offset'. A large red plus sign is overlaid on the top right of the interface.

# 4. Pre-trade risk management

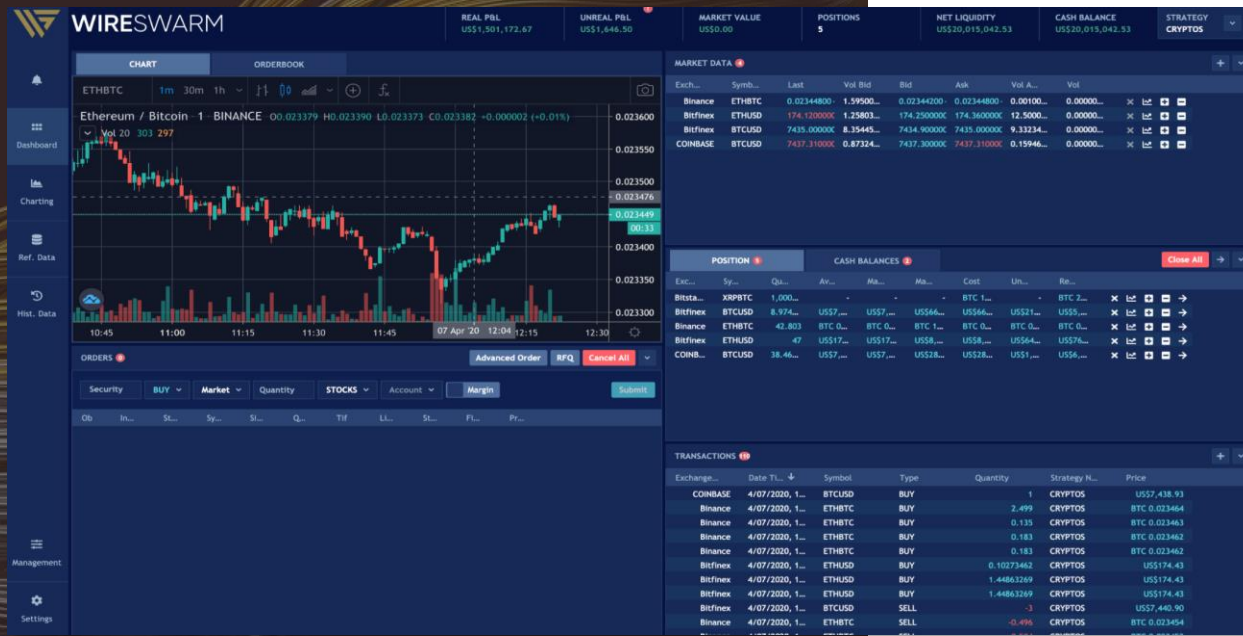


## Perform pre-trade checks

- ❏ Credit limit check
- ❏ Margin check
- ❏ Maximum exposure
- ❏ Maximum order sizes
- ❏ Maximum number of trades
- ❏ Etc.

Parameterization to either "warn" or "reject" orders that exceed hard or soft limits

# 5. Execution management



## Review

- Order Status
- Executions

## Amend orders

## Cancel orders

All order and execution related data is propagated to the Core Banking System or OMS



# WIRESWARM benefits



## Single standard FIX connection

WIRESWARM manages all Rest, Websocket & FIX connectivity to liquidity venues.



## Available liquidity venues

Once connected, Banks have immediate access to the most liquid venues.



## Advanced Execution management

Integrated SOR and Execution Algorithms to achieve best-price executions.



## Full audit trail

Full audit trail of decision-logic to meet regulatory requirements.



## Reduced Operational Risk

Reduced number of internal and external systems and interfaces



## Secure

Reduced number of internal and external systems and interfaces



## Reduced time-to-market

Off-the-self solution - ready to be deployed



## Reduced on-going maintenance

Zero overhead maintaining liquidity venue connectivity



## Proven

In production at one of the first two fully regulated Crypto Banks

# WIRESWARM support & professional services



## Support

- ❖ WIRESWARM-Assist provides 1st level support backed by our global Professional Services teams.
- ❖ WIRESWARM-Assist is available 24x5 in a follow-the-sun model.
- ❖ Support ticketing system allows clients to create and track support tickets in real-time.
- ❖ WIRESWARM Product Update and Upgrades are made available multiple times per year



## Professional Services

- ❖ WIRESWARM's Professional Services has many man-years of experience in implementing Execution Management solutions
- ❖ Experts in both Execution Management and Liquidity venue connectivity
- ❖ Built over 50 adapters to Traditional and Digital Asset Exchanges, Market-makers and Brokers
- ❖ Consulting and Custom Implementation of proprietary Execution Algorithms and trading logic to meet client specific needs



# The facts

Connected to

**20**

Crypto Exchanges,  
Brokers and  
Market Makers

In Business  
since

**2014**

**9**

Investors  
including

**4**

VC's

Built over

**120**

trading strategies

Offices in

**5**

different  
countries

**100+**

Global customer  
companies

**30+**

People in our  
team

**12**

different  
nationalities  
in our team

# Our swarm

## Our board



**Andy Flury**  
Founder & CEO



**Roger Altorfer**  
Executive Committee Member  
Microsoft Switzerland



**Martin Trepp**  
Various CEO & CFO  
Positions



**Luzius Meisser**  
Bitcoin Association  
Switzerland

## Executive swarm



**Andy Flury**  
Founder & CEO



**Jakob Bosshard**  
COO



**Stuart Petersen**  
CRO



**Bartosz Wojcik**  
CTO



**German Ramirez**  
CMO



**Stefan Koller**  
CFO

# Our partners



**METACO** is a Swiss financial technology company securing the foundations of the tokenized economy. Established in 2015 with the objective to explore and design institution-grade digital asset management solutions, METACO made its breakthrough in 2018 with the launch of SILO, the digital asset storage solution for banks.



**Avaloq** is a leader in core banking software and digital technology and a provider of software as a service (SaaS) and business process as a service (BPaaS) solutions for banks and wealth managers. Over 150 clients trust Avaloq with USD 4.5 trillion in assets managed with its software.



**Custodigit** provides a technical solution for the custody of digital assets for regulated financial services institutions. Its platform enables regulated financial service institutions to provide their customers full access to the crypto asset class covering crypto currencies, as well as digital assets.



**Tassat** is a New York-based global financial technology provider of innovative solutions to financial markets utilizing blockchain-based technologies to enable frictionless asset transfer and settlement. Tassat has also created the first-of-its-kind margined deliverable swap contracts on Bitcoin as well as the first institutional OTC-based digital asset reference rates.



# Testimonials



WIRESWARM has become a trusted partner and supports us in a number of projects.

The WIRESWARM team provides a tailor-made Digital Asset Trading and Execution Platform for banks, which will be an optimal solution for every bank.



**Seamus Donoghue,**  
METACO



With WIRESWARM, we offer access to the markets for new asset classes such as cryptocurrencies and security tokens through a standard API. Clients can enter orders through their online banking. The Avaloq software will then route these orders to WIRESWARM which will trade it over several exchanges and brokers, to get the best execution price.



**Philippe Meyer,**  
Avaloq



The partnership with WIRESWARM will allow Banks to gain greater exposure to Digital Assets via a single connection providing them with unparalleled access to best execution for their clients including seamless access to our margined Bitcoin Swaps, which will be listed on our exchange due to launch later in 2020.



**Tassat Group,**  
Tassat

# The institutional leader in digital asset trading and execution for banks

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