



# ISO 20022 and APIs

*SMPG*

30 September 2020

# Background on ISO 20022 and APIs

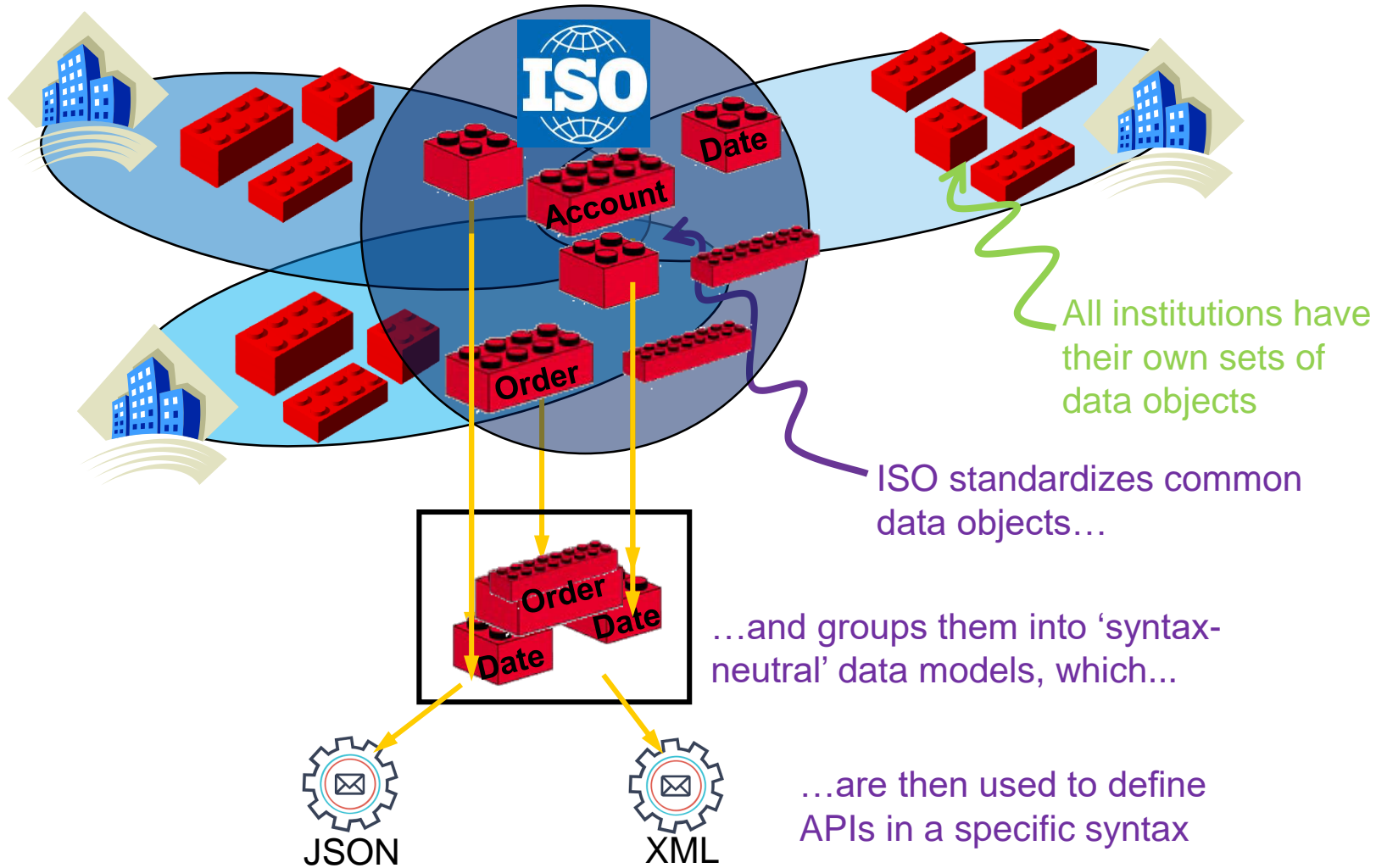
## ISO 20022 - The ISO recipe for all financial messages

XML  
JSON  
ASN.1

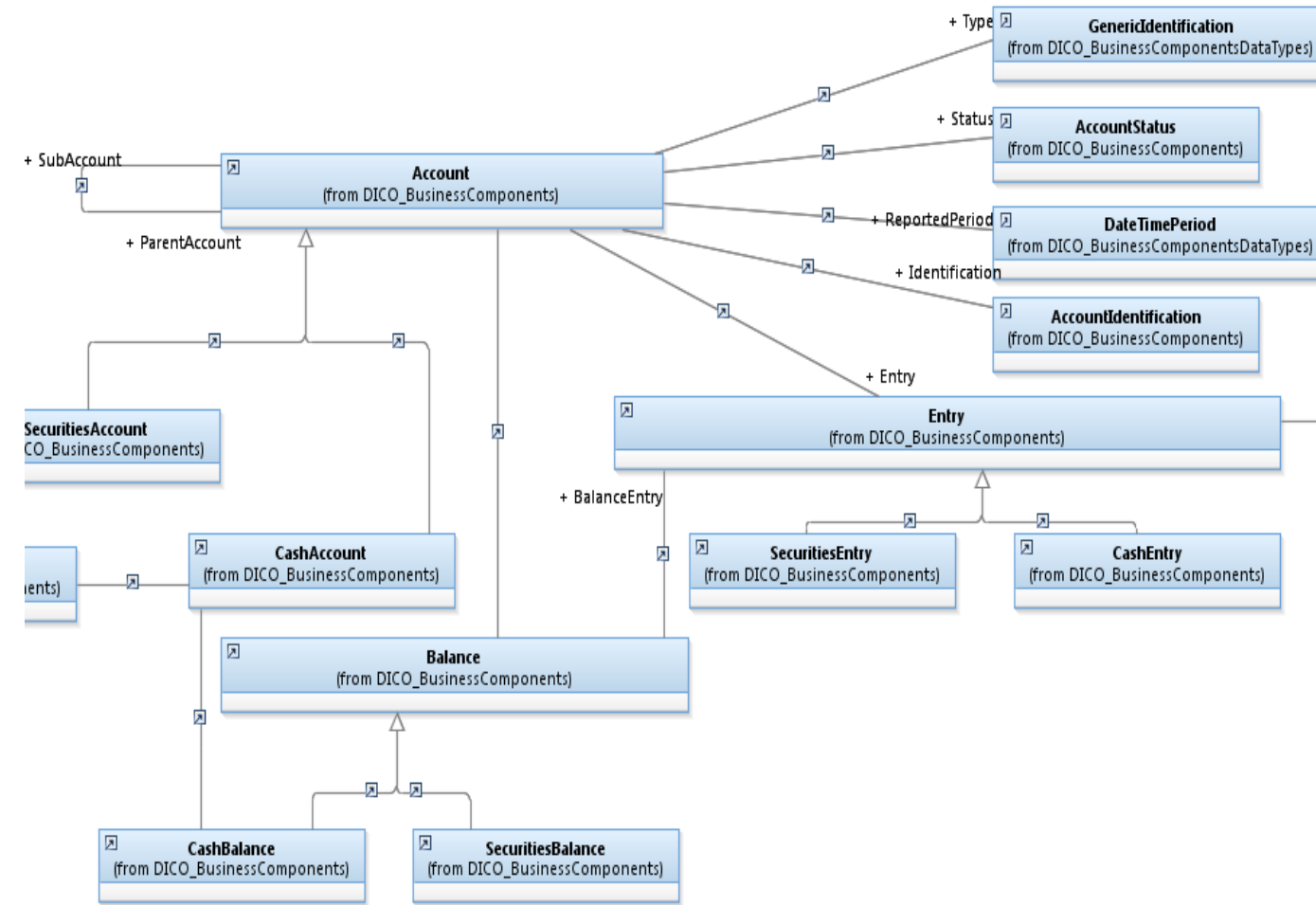
Financial  
repository on  
[www.iso20022.org](http://www.iso20022.org)

Industry led  
development  
and  
registration

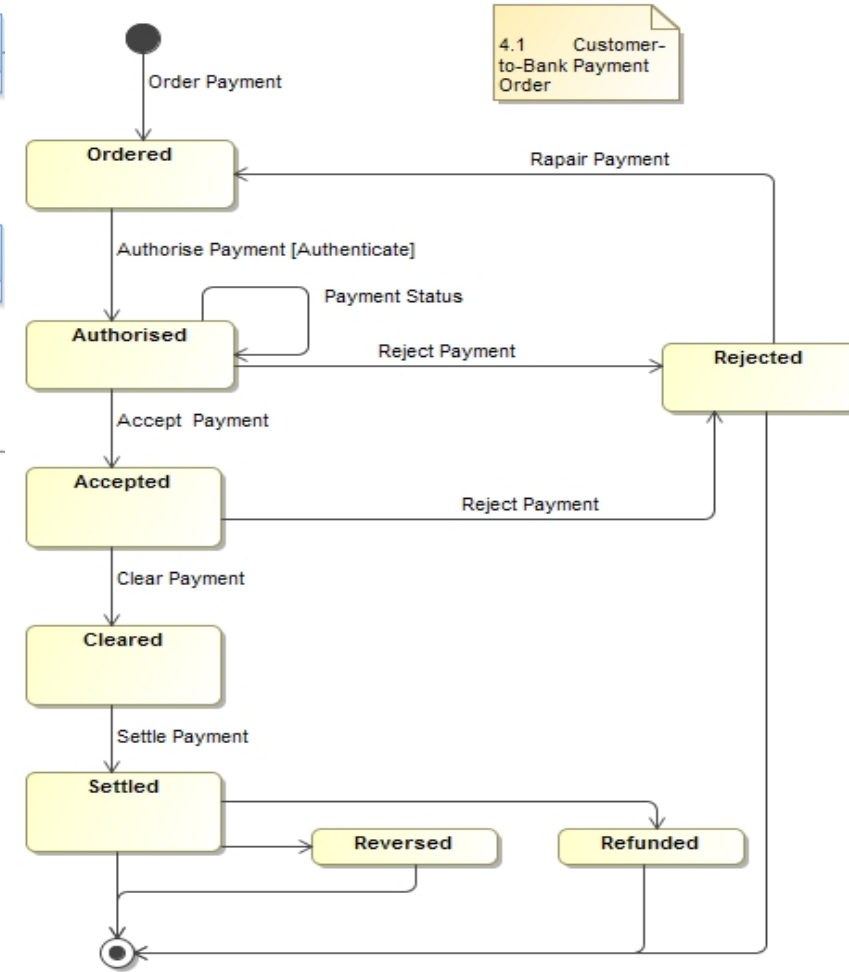
Syntax and  
technology  
neutral business  
modelling  
methodology



# ISO 2022 and APIs - What do we reuse?



The business data

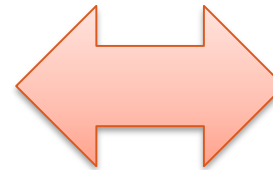


The business stories

## Similarities and differences with the messaging paradigm

	Messaging	API
<b>Architecture</b>	Entire information set flows between all participants.	Central state maintained as web resources.
<b>Interaction style</b>	Point-to-point asynchronous messaging.	REpresentational State Transfer (REST); stateless operations access and manipulate centrally maintained resources.
<b>Type of message</b>	Messages cover many use cases and apply for different roles	Concise and focused set of API calls.
<b>Development and maintenance</b>	Robust development requiring predefined, precise maintenance cycles.	Rapidly changing, fast and simple implementation environment requiring agile development.
<b>Types of services and applications</b>	Highly automated back office applications.	Services on the edge, lightweight implementations.
<b>Data format</b>	Proprietary or eXtensible Markup Language (XML).	JavaScript Object Notation (JSON), OpenAPI

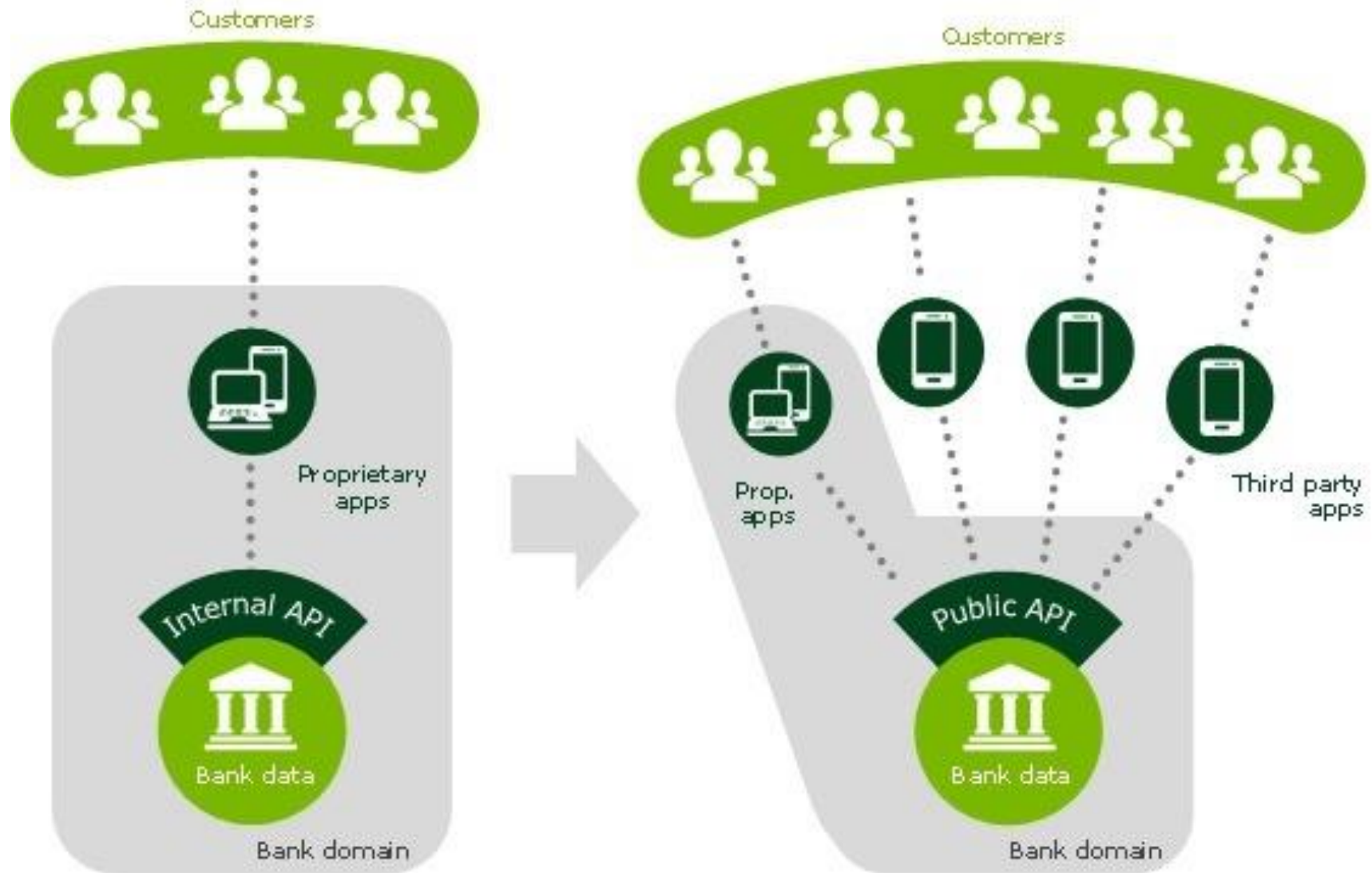
- Messaging standards are published centrally
- Strict annual review process
- ISO20022 messages are 'one-size fits all'



- APIs are decentralised
- More agile
- Fit for purpose

# OpenBanking driving API adoption

# The need for Standards in OpenBanking





# A hyper fragmented payments landscape



# ISO 20022 compliant Resources

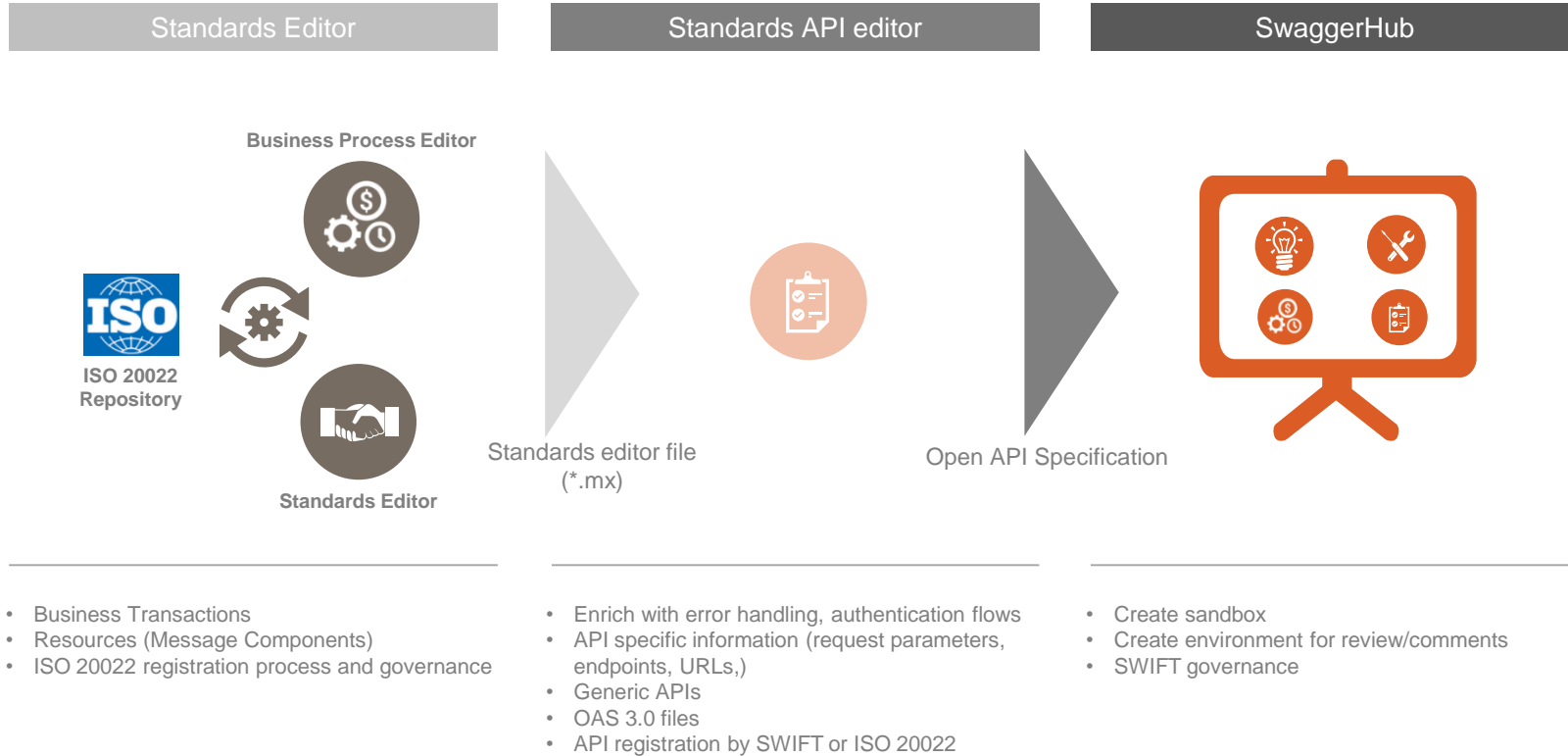


# RMG approval

1. Approve the use of ISO 20022 components to model ISO 20022 compliant API Resources
2. A proposal for a submission process.
  - To be reviewed by the RMG Rules subcommittee
  - Reuses aspects from message submission process but more agile

Out of scope: the creation of API contracts based on ISO 20022 Resources

# API Modelling: three phases, three tools, three personas



# Example of a Resource definition

- ▼ Message Definitions
  - ▼ Securities Settlement Transactions (sese.a24.001.01)
    - > Query Parameters [0,1] : TransactionIdentification2
    - ▼ Transaction Identification [0,\*] : TransactionIdentification1
      - Account Servicer Transaction Identification [0,1] : Max35Text
      - Account Owner Transaction Identification [1,1] : Max35Text
    - ▼ Transaction Details [1,\*] : TransactionDetails130
      - Account Servicer Transaction Identification [0,1] : Max35Text
      - Account Owner Transaction Identification [1,1] : Max35Text
      - Market Infrastructure Transaction Identification [0,1] : Max35Text
      - Common Identification [0,1] : Max35Text
      - Trade Identification [0,\*] : Max35Text
      - Internal Client Identification [0,1] : Max35Text
      - Pool Identification [0,1] : Max52Text
      - Corporate Action Event Identification [0,1] : Max35Text
      - Triparty Agent Collateral Transaction Identification [0,1] : Max35Text
      - Client Triparty Collateral Transaction Identification [0,1] : Max35Text
    - > Account Owner [0,1] : PartyIdentification230Choice
    - > Safekeeping Account [1,1] : SecuritiesAccount41
    - > Safekeeping Place [0,1] : SafekeepingPlaceFormat40Choice
    - > Place Of Trade [0,1] : MarketIdentification96
    - > Place Of Clearing [0,1] : AnyBICDec2014Identifier
    - > Financial Instrument Identification [1,1] : SecurityIdentification37
    - > Settlement Quantity [1,1] : Quantity6Choice
    - > Settlement Amount [0,1] : AmountAndDirection51
    - > Expected Settlement Date [0,1] : DateAndDateTime2Choice
    - > Instruction Date [0,1] : ISODatetime
    - > Expected Value Date [0,1] : DateAndDateTime2Choice
    - > Settlement Date [1,1] : SettlementDate33Choice
    - > Trade Date [0,1] : TradeDate10Choice
    - > Securities Movement Type [1,1] : ReceiveDelivery1Code
    - > Payment [1,1] : DeliveryReceiptType2Code
    - > Securities Transaction Type [1,1] : SecuritiesTransactionType21Choice
    - > Receiving Settlement Parties [0,1] : SettlementParties95
    - > Delivering Settlement Parties [0,1] : SettlementParties94

# community APIs



Version 1 complete: 21 APIs managing NAV



WG with BNP, Euroclear, SEB and HSBC: 9 APIs



APIs for securities: HKEX Project Synapse



[www.swift.com](http://www.swift.com)