



ISO 20022 as An Enabler of Data Exchange

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The global context



A closed environment



FIIs have traditionally operated like castles protecting their territory, with moats to dissuade outsiders

As such, an open platform economy has not flourished in financial services – *until now*

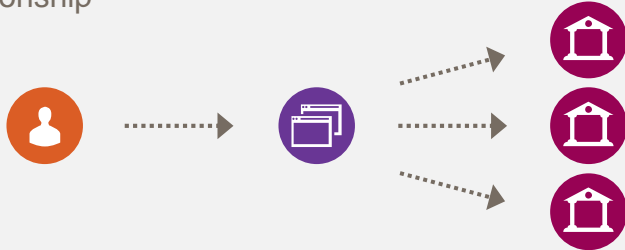


Powering open banking

Closed banking: Bank owns the customer relationship



Open Banking: Bank or third-party owns the customer relationship



Regulators have seen the power of APIs to open up retail banking markets and spur competition

Pioneered in the EU and UK, Open Banking regulations are now a global phenomenon

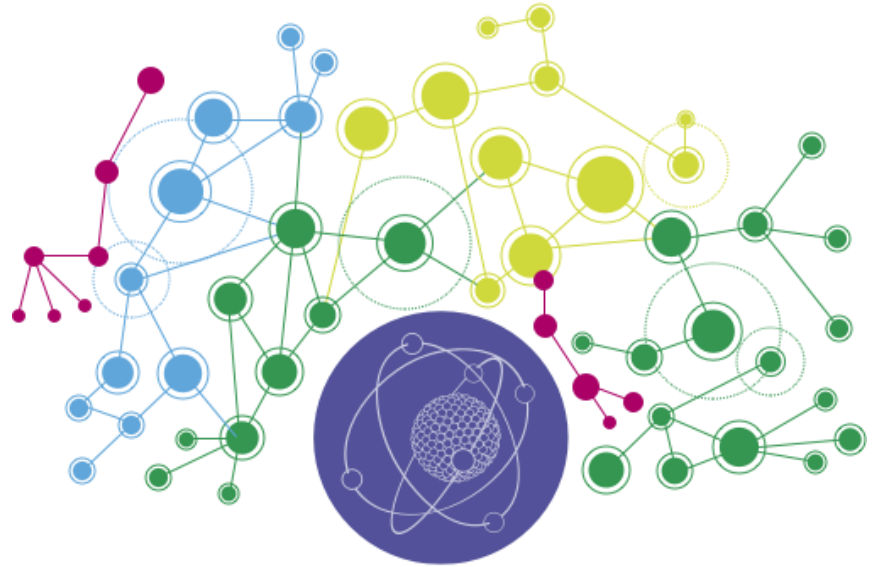


Trends and market drivers

The future is ...

- Open & flexible
- Information rich
- Fast & easy
- 24-7
- Secure & Compliant

... and about platforms & ecosystems



Challenge: how to standardise the APIs space



API – Payload Specification with No Standard



API Spec Flavor 1

Value Date
Category Purpose

VS



API Spec Flavor 2

Transaction Date
Purpose



Challenges / Risks

Semantics/Meaning -
Misinterpretation

BAI Transaction code
Structured Address

VS

Proprietary code
Unstructured Address



Data Types – Translation
/ Conversion

Max35Text Reference
2 Lines of Details

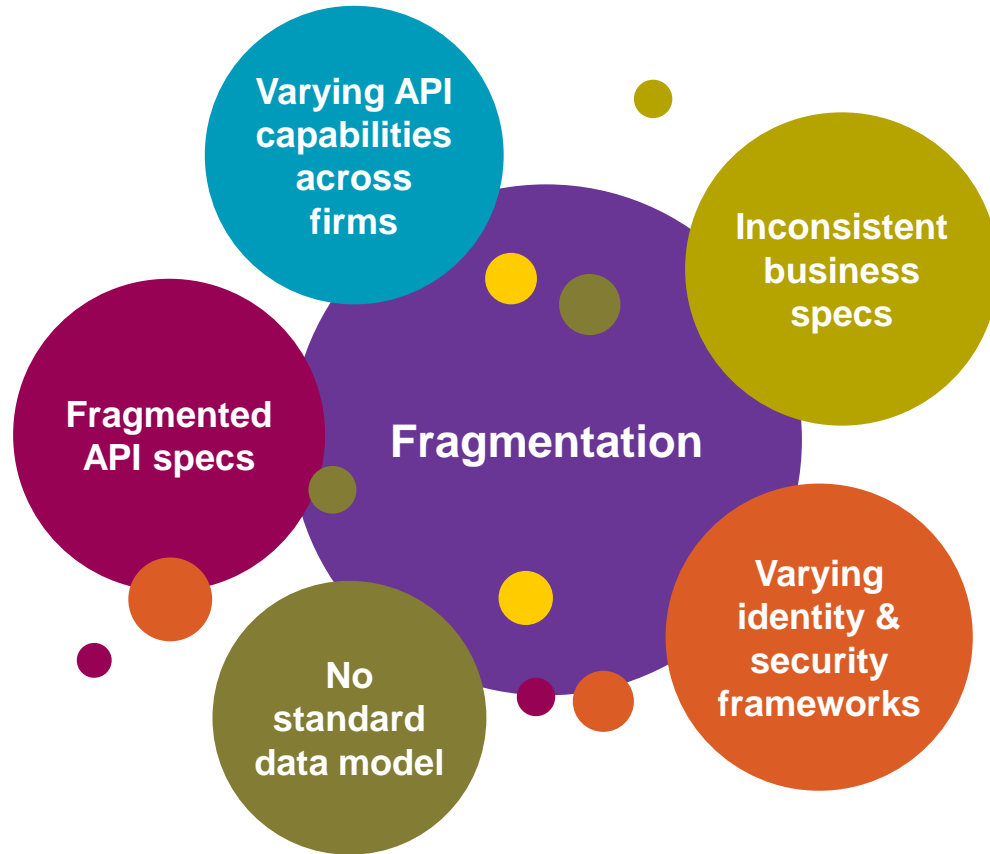
VS

Max12Text Reference
4 Lines of Details



Format – Data loss /
Truncation

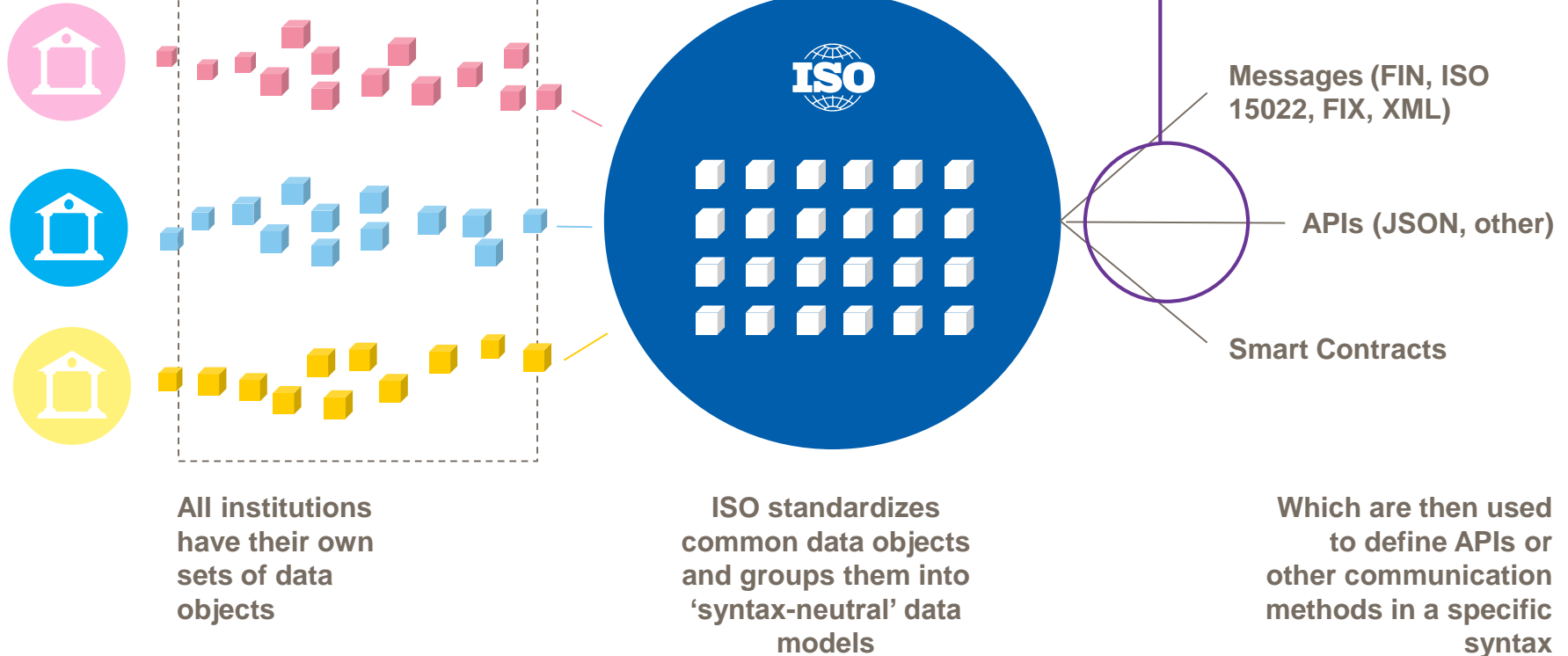
Enduring challenges



While APIs promise much – the API environment in financial services remains highly fragmented



ISO 20022 Methodology for standardisation



The three pillars of API

Modelling

Publishing

Consumption

SWIFT Content

Community Content

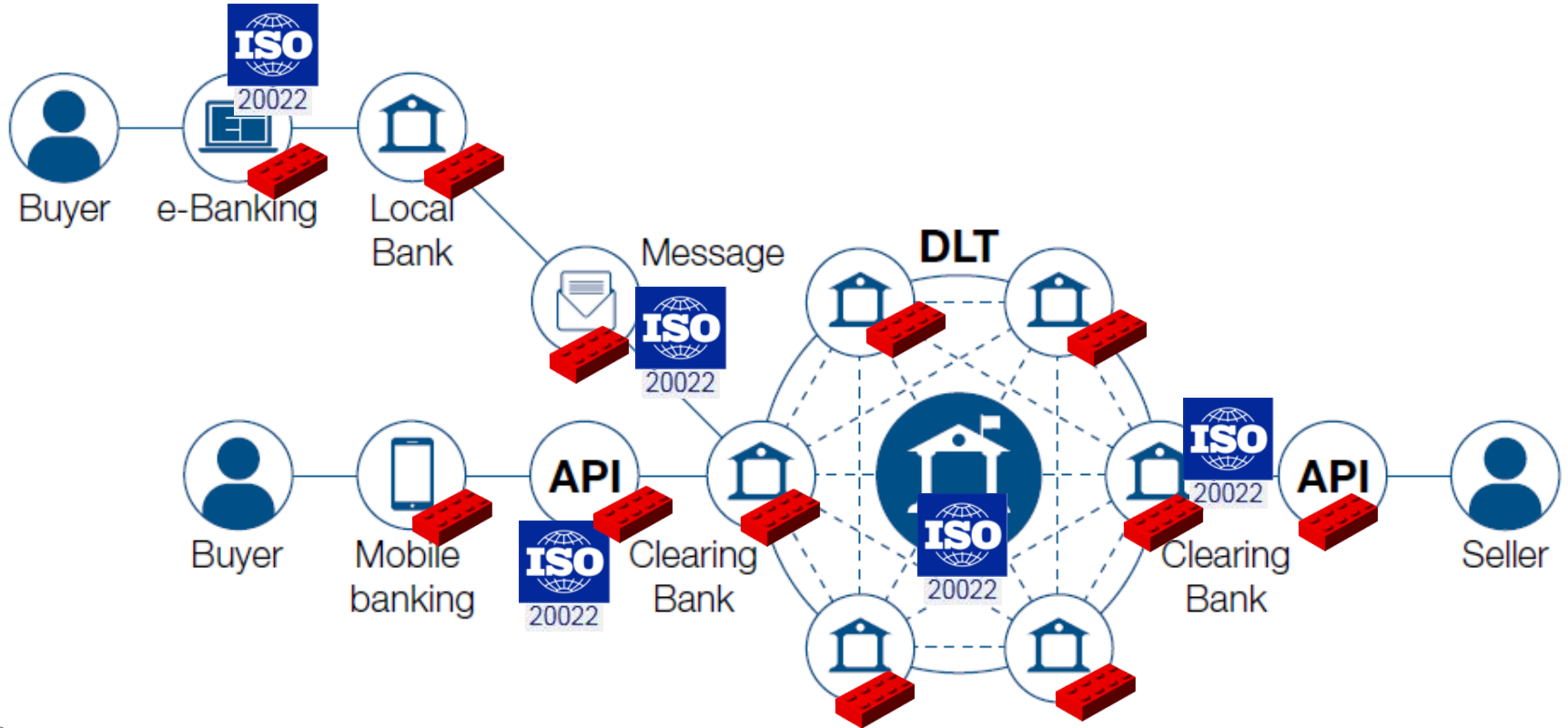
SWIFT Collaborative modeling tools and methodologies, powered by SwaggerHub

SWIFT Developer Portal with Sandboxes and SWIFT API Catalogue

SWIFT API Gateway, with SWIFT content APIs and Community content APIs, with consumption options



Guaranteed interoperability across implementations



Define the API request/responses based on the ISO 20022 Resources

- PSD2 API RESOURCES (pain.a00.000.01)
 - Payment Obligation [1,1] : PaymentObligationResource1
 - Account [1,*] : CashAccountResource1
 - Identification [1,1] : AccountIdentificationAndName5
 - Identification [1,1] : AccountIdentification4Choice
 - IBAN [1,1] : IBAN2007Identifier
 - Other [1,1] : GenericAccountIdentification1
 - Name [0,1] : Max35Text
 - Account Servicer [0,1] : FinancialInstitutionIdentification/Choice
 - Name And Address [1,1] : NameAndAddress5
 - BICFI [1,1] : BICFIIdentifier
 - Clearing System Member Identification [1,1] : ClearingSystemMemberIdentificationChoice
 - Proprietary Identification [1,1] : SimpleIdentificationInformation4
 - Remittance Information [0,1] : RemittanceResource1
 - Payment Instruction [1,*] : PaymentInstructionResource1
 - Remittance Location [0,1] : RemittanceLocationResource1
 - Cash Account Balance Report [0,*] : CashAccountBalanceReportResource1

- Get Accounts (pain.a01.001.01)
 - Request [1,1] : GetAccountsRequest
 - Response [1,1] : AccountsList
 - Account [1,*] : AccountResource
 - Identification [1,1] : Max35Text
 - IBAN [0,1] : IBAN2007Identifier
 - Name [1,1] : Max35Text
 - Details [0,1] : Max140Text
 - Linked Account [0,1] : Max35Text
 - Usage [0,1] : AccountUsage
 - Type [1,1] : CashAccountType6Code
 - Currency [0,*] : CurrencyCode
 - Balances [0,1] : BalancesList
 - PSU Status [0,1] : Max35Text
 - Hal Links [1,1] : AccountLinks

Pick and choose the elements from the Resources to compose your API calls

No need to reuse the entire structure of the Resource
=> No deep nesting like in message design

Only use the elements you need for the API call
=> Custom made calls

Add technical elements where appropriate



NEW

Do you like the new layout of the developer portal?

Join us

We are collaborating with the community to harmonise API development in financial services.

[DISCOVER OUR APIs](#)

[CREATE ACCOUNT](#)

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ISO 20022

SECURE

STANDARDS

AUTOMATED

SEAMLESS

SWIFT API Gateway



Two-sided platform ecosystems



All platforms are two-sided ecosystems

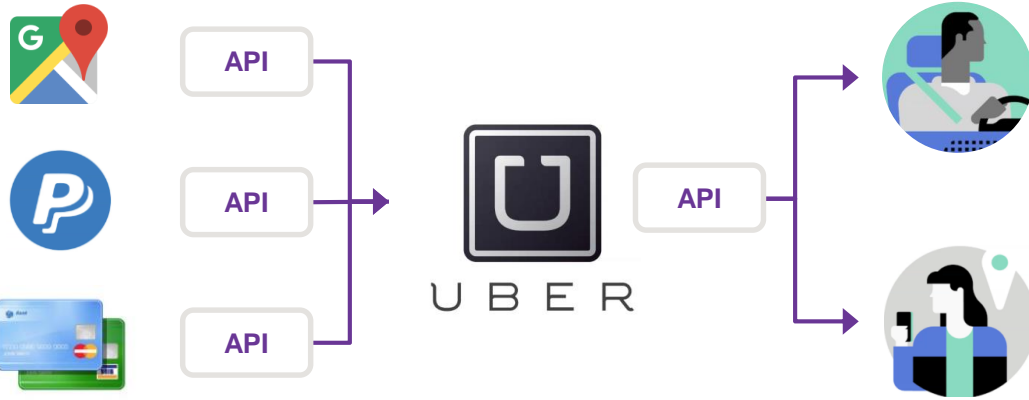
Service providers exploit the the infrastructure and reach a wide pool of end-customers

End-customers use the platform as a single point to access a range of services



The platform economy

Use case: The Uber Model



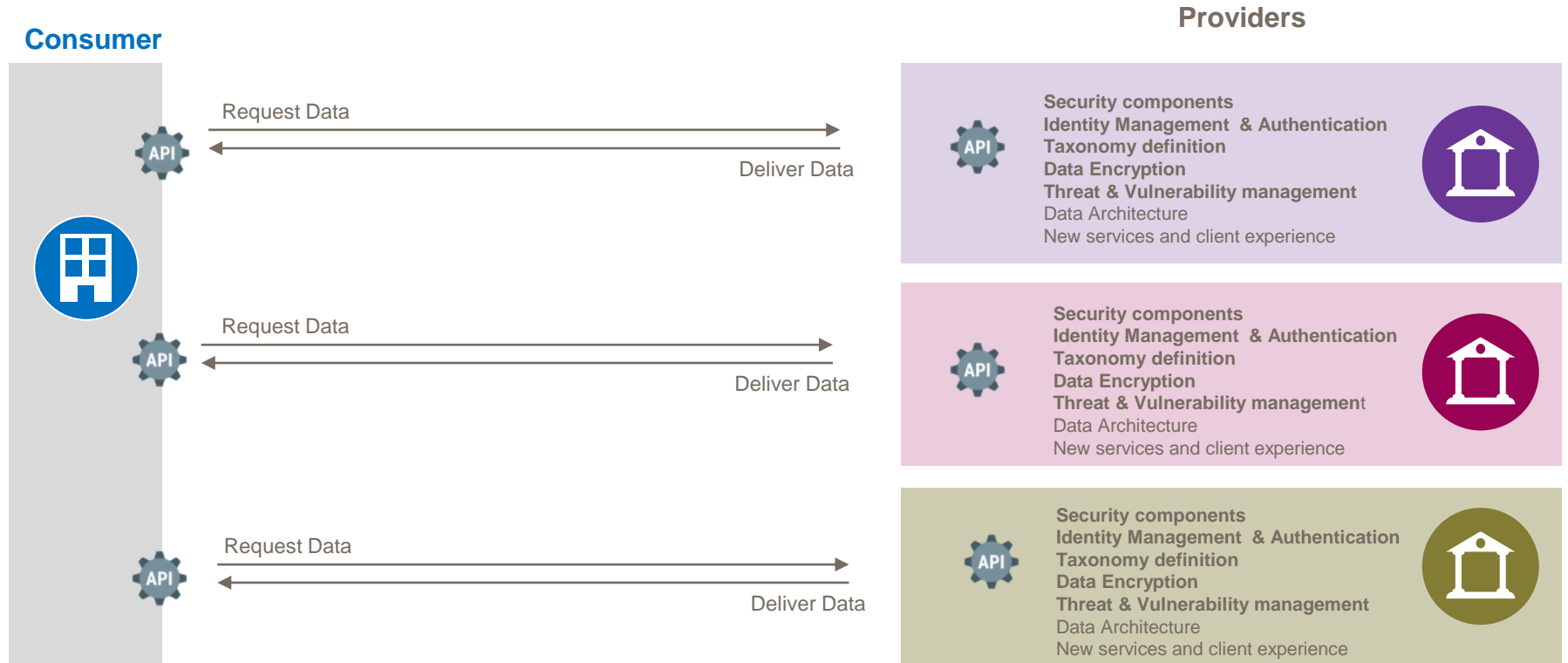
Firms use APIs to connect to existing platforms and focus on their core offer

They don't need to develop and maintain all the infrastructure

By connecting to other platforms via APIs, Uber focuses on their core business – connecting riders and drivers to deliver a seamless customer experience

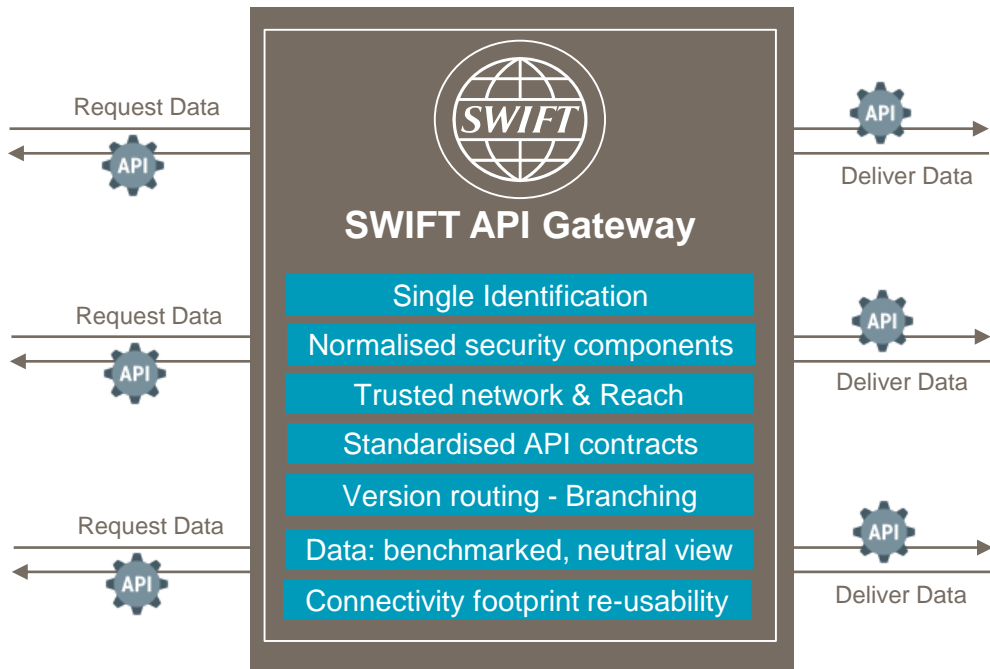
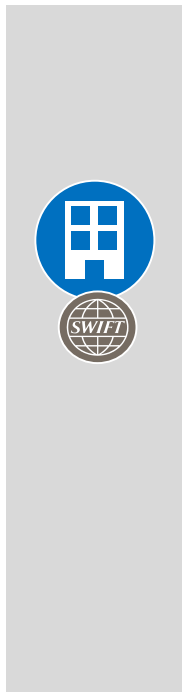


Why focus on non-competitive capabilities?



Providers can focus on true competitive differentiators and revenue generators

Consumer



Providers

Data Architecture
New services and
client experience



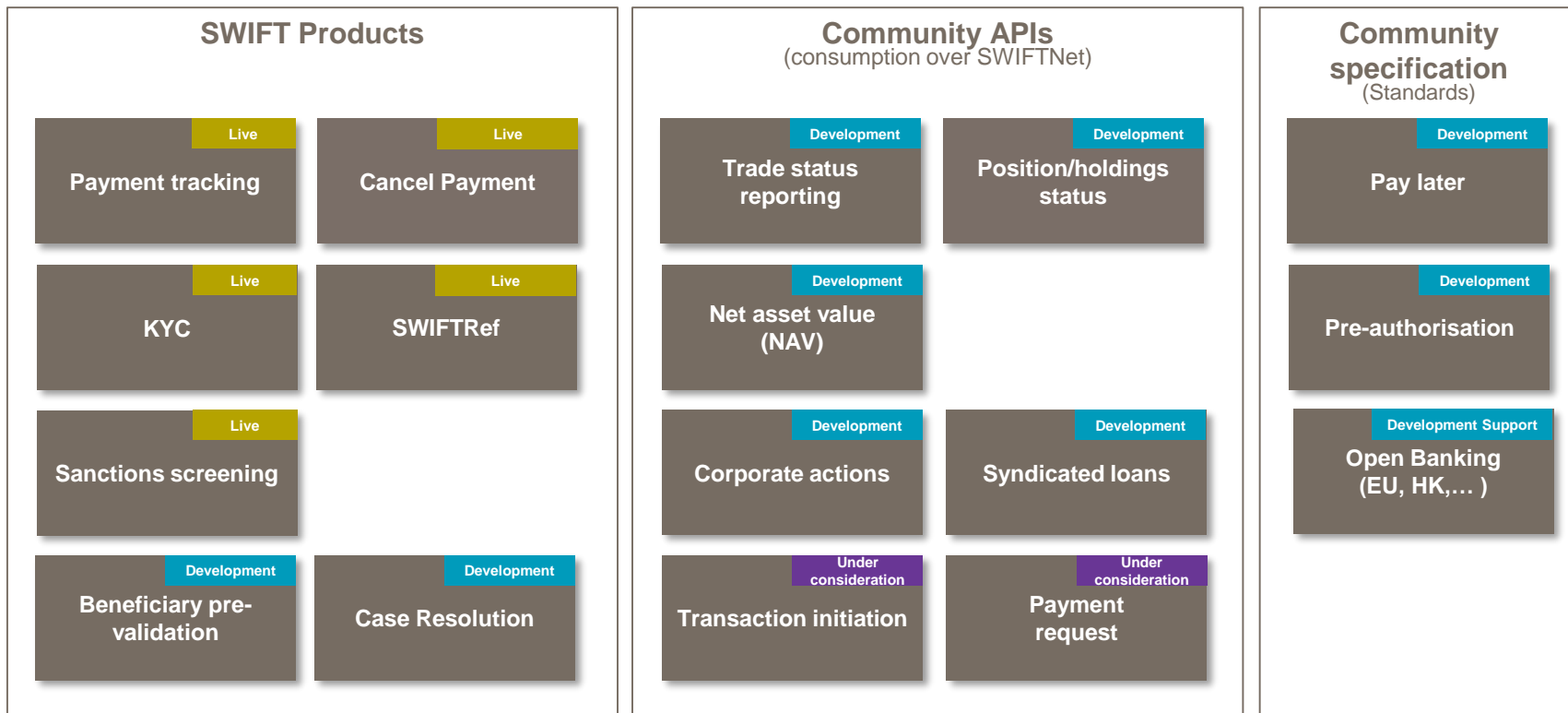
Data Architecture
New services and
client experience



Value added services
New services and
client experience



Examples of API business use cases for Payments and Securities



Our unique expertise



Unparalleled reach



**Extensive
compliance expertise**



**Exceptional security
& reliability**



**Unique expertise
in data standards**

**SWIFT is the leader
in secure, compliant
and standardised global
financial
communications**

**We are uniquely
positioned to help the
community overcome
the challenges
and seize the
this opportunity**



SWIFT White Paper on API

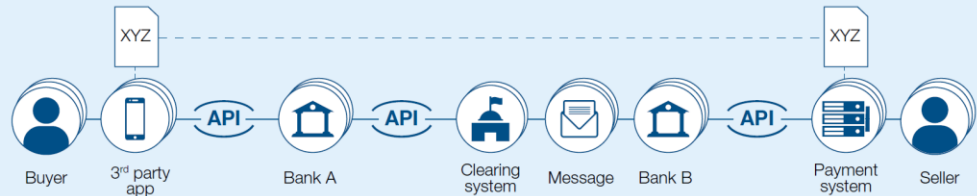


Delivering a global platform for financial services API economy

- Avoid re-invent the wheel
- Needs a single, shared business standardisation methodology and governance strategy
- Re-use ISO20022 business definitions and data models
- Ensure end-to-end consistency in business processes (API & Legacy)
- Look beyond immediate need to comply with regulation or for tactical solution

- ISO20022 API shares the same business semantics and data dictionary as a related ISO20022 message.
- Greatly simplifies the task of integrating the API to existing financial systems and processes.

End-to-end consistency is key



Two key aspects to ISO20022:

- A methodology: a “recipe” to standardise financial transactions.
- A machine-processible repository of content:
 - the definitions of messages,
 - business concepts,
 - processes and everything else required to describe those transactions

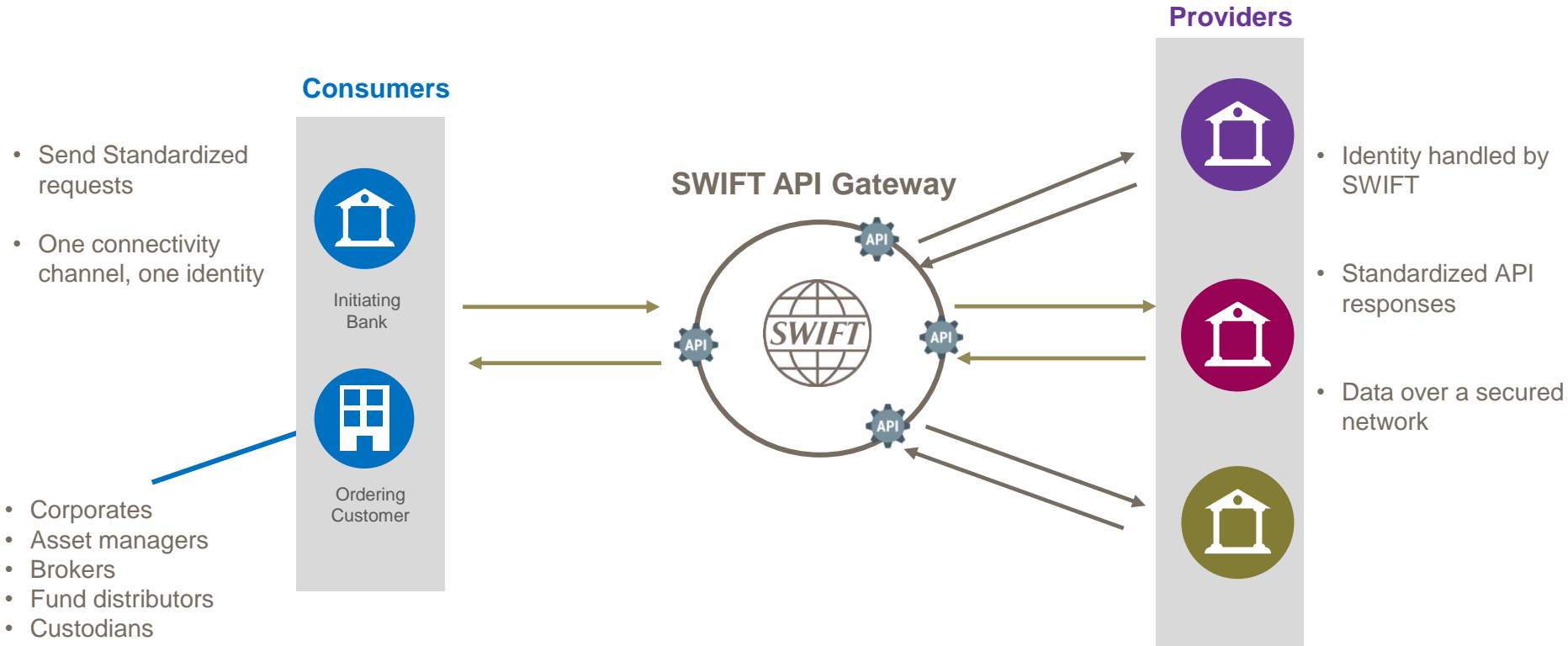




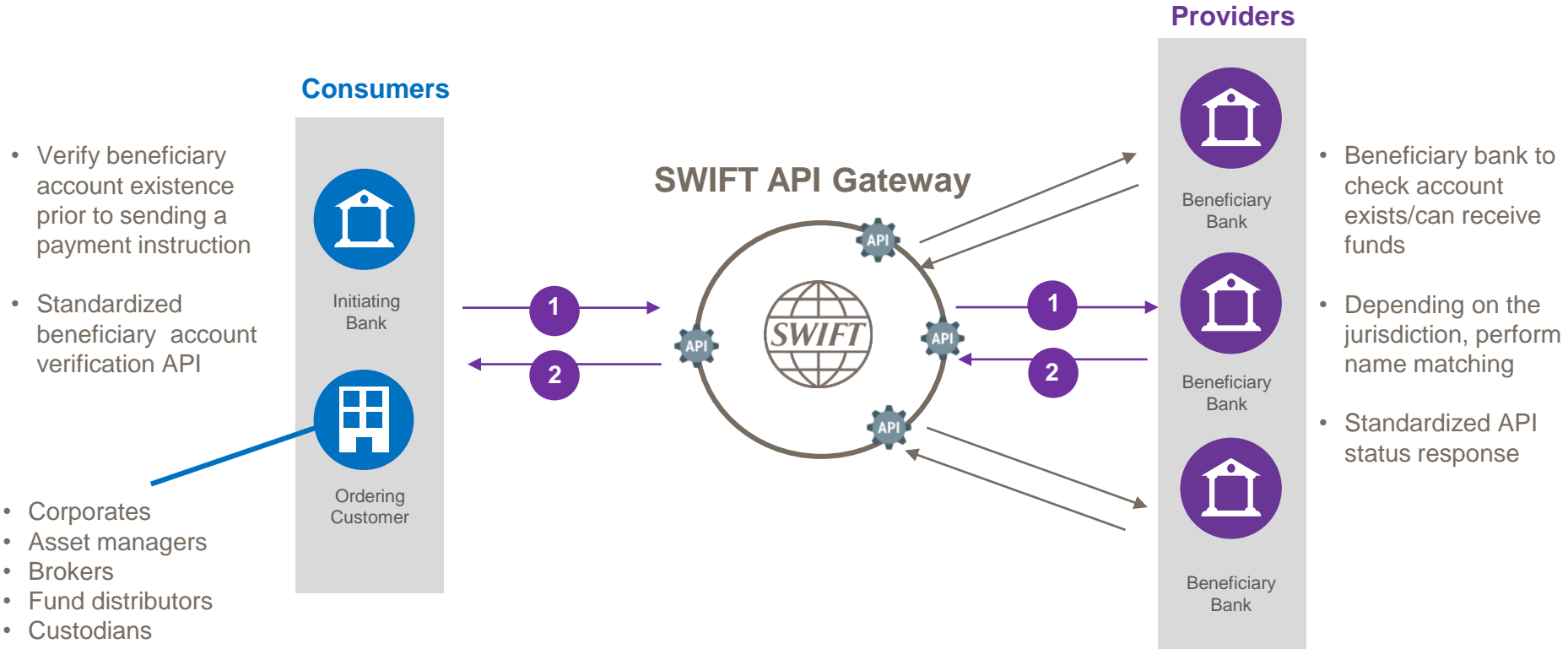
Current use cases



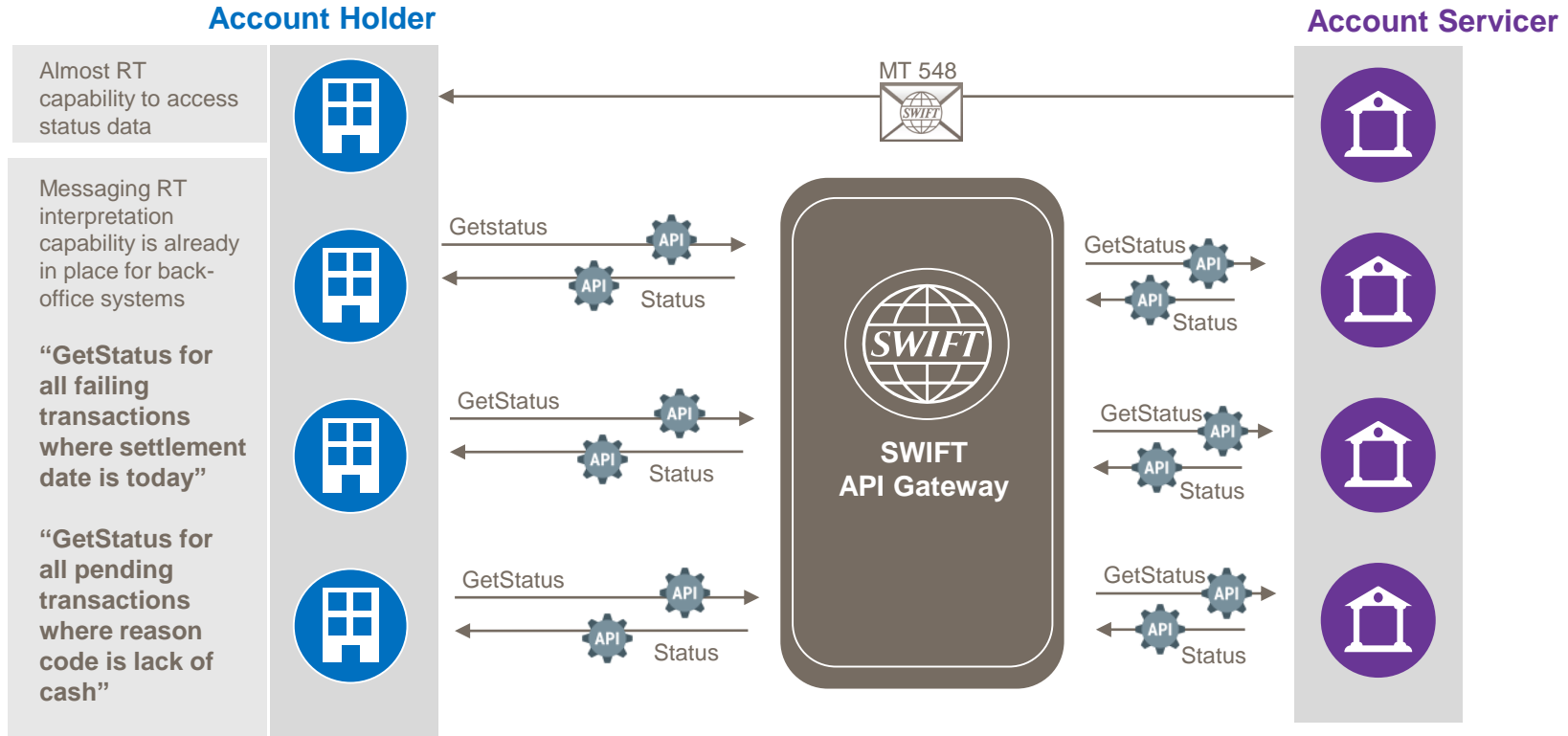
API Consumption in a two-sided API platform



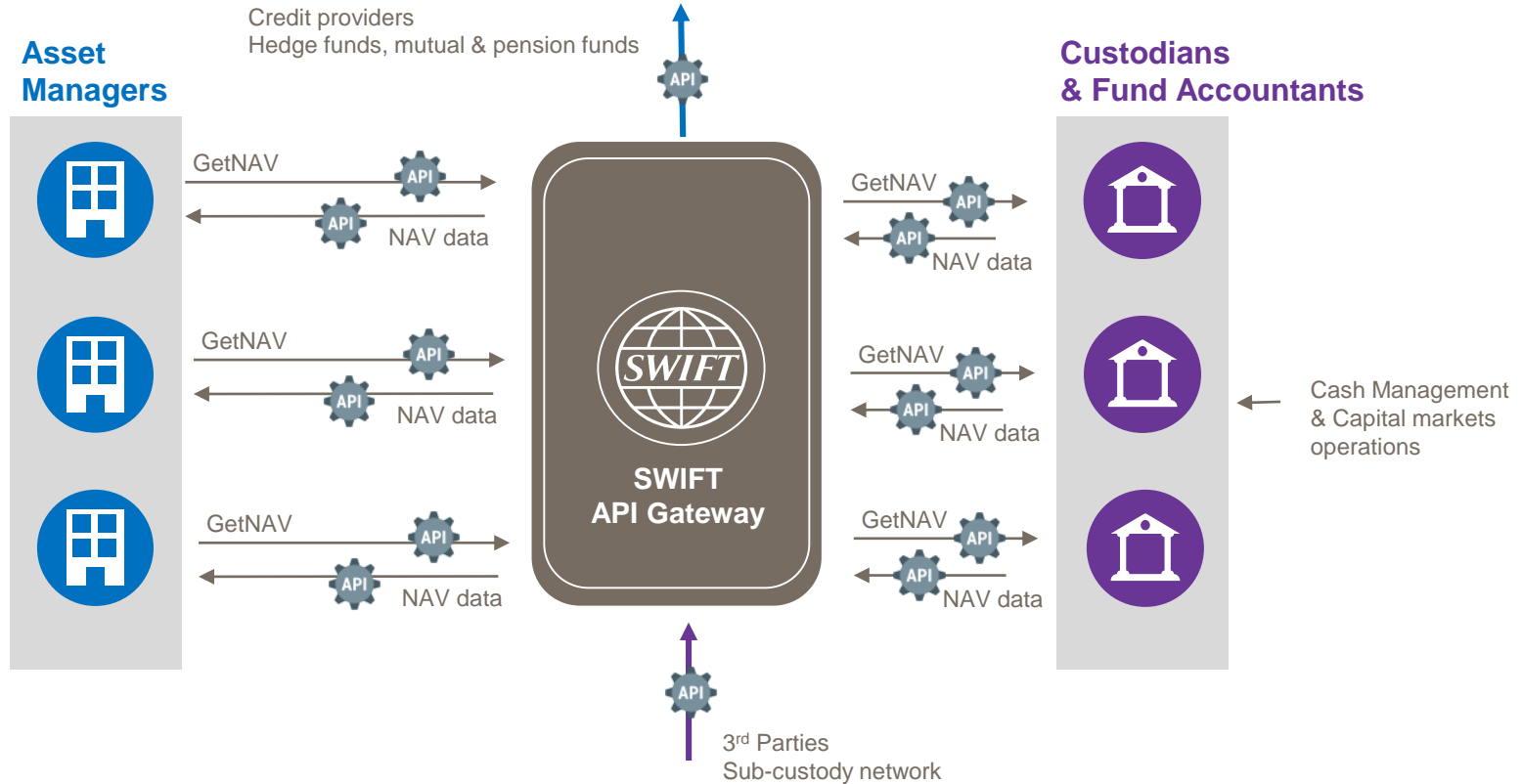
Use case 1: pre-validation of accounts



Use case 2: On demand and real-time status of settlement instructions

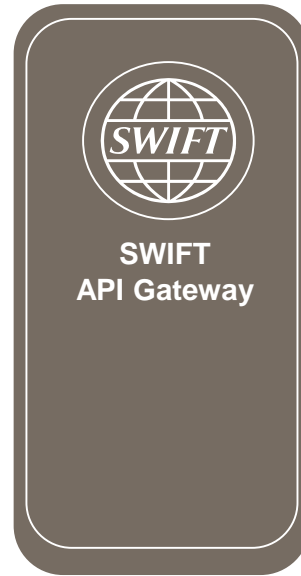
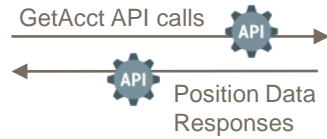


Use case 3: Ad-hoc access to NAV information across fund accountants

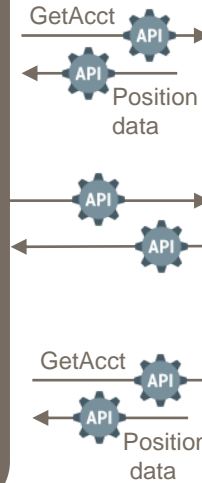


Use case 4: request securities positions held across custodians and depositories

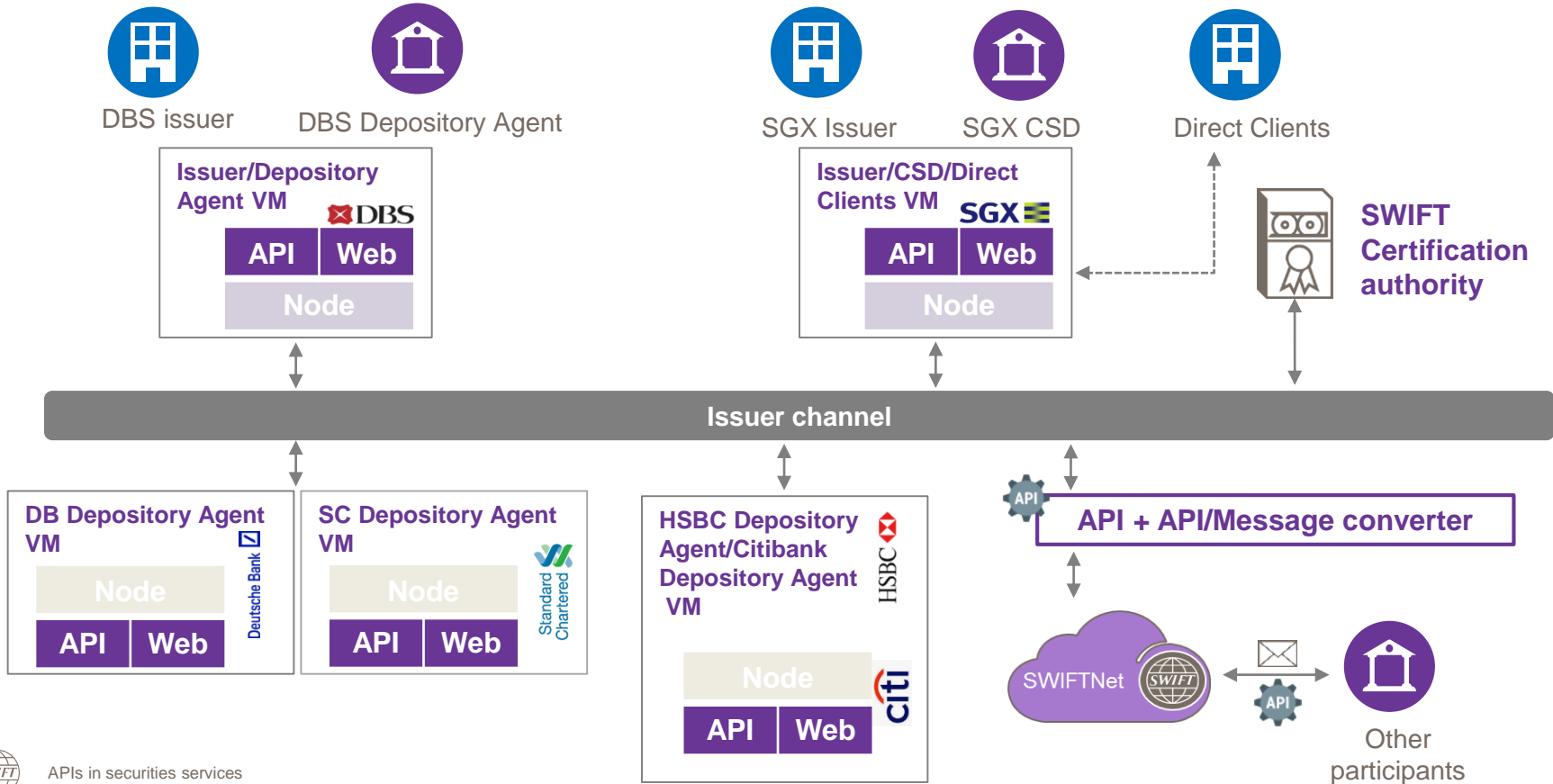
Custodians Asset Managers & Brokers



Custodians & Depositories



Use case 6: DLT-based e-voting solution leveraging APIs





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