T2-T2S consolidation and ISO20022 Cross Border Payment and Reconciliation migration

Impacts & Opportunities

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Evolution of European Market Infrastructures

Eurosystem vision 2020

Support of a pan-European solution for real-time retail payments (TIPS)	Synergies between TARGET2 & T2S (TARGET2/T2S consolidation)	Harmonised services for collateral management (ECMS)
Nov.2018	Nov.2021	Nov.2022

2022: Target Services

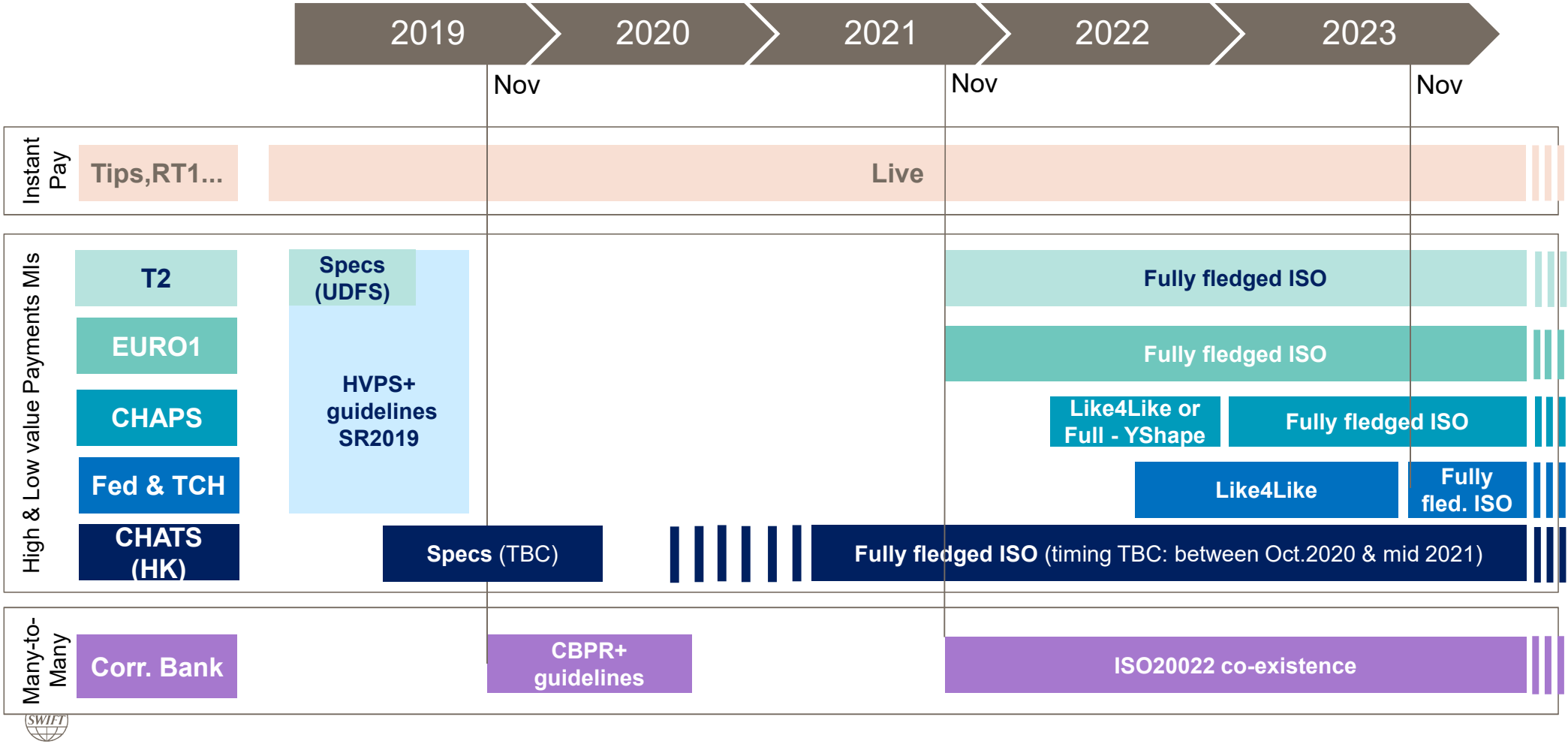
EBA Clearing plans

EURO 1 Align migration with TARGET2 migration	STEP 2 evolution New settlement model, new SIPS related requirements	RT1 Instant Payment Enhanced services (>15k, <10")

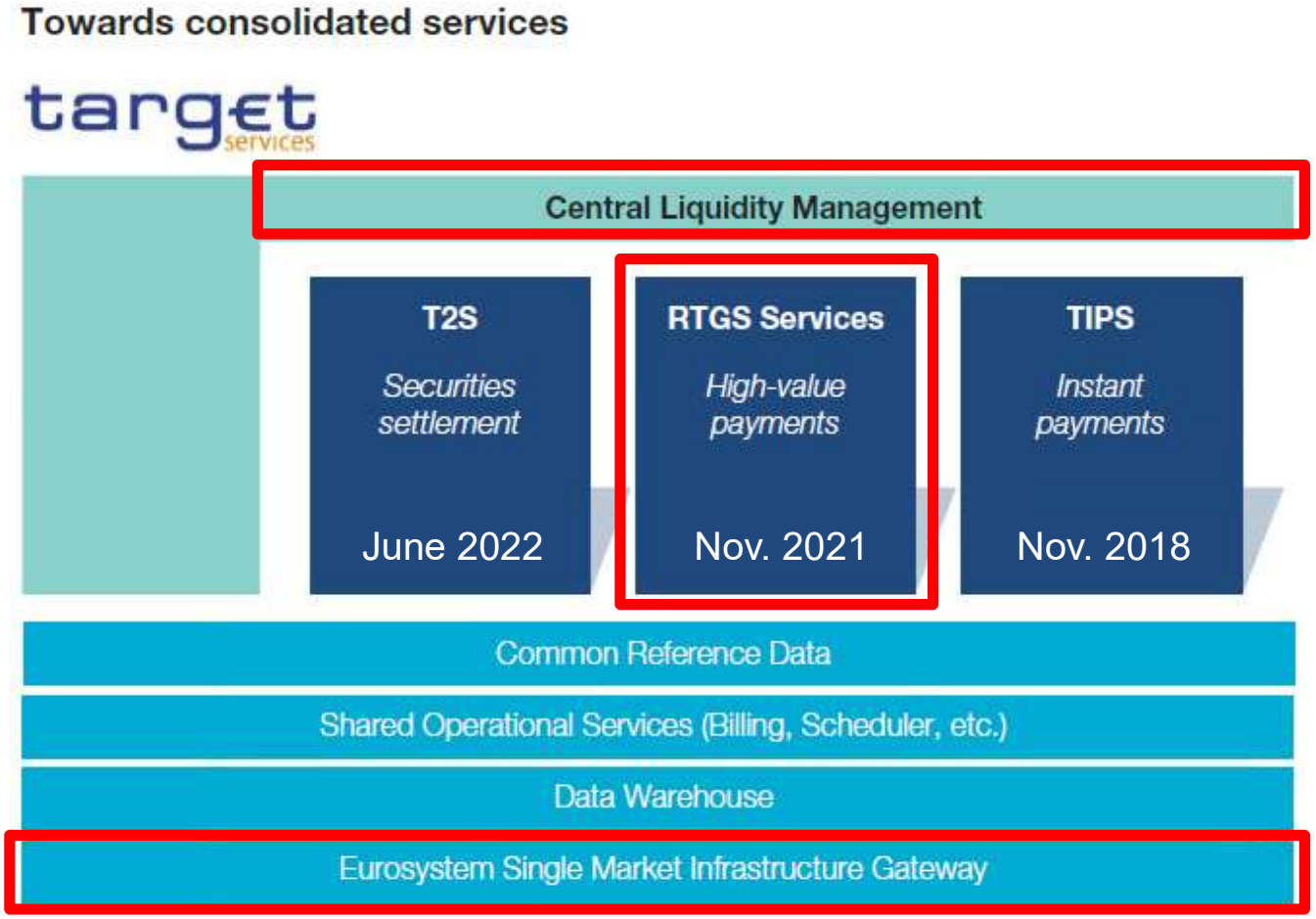
New enhanced liquidity efficiency across services

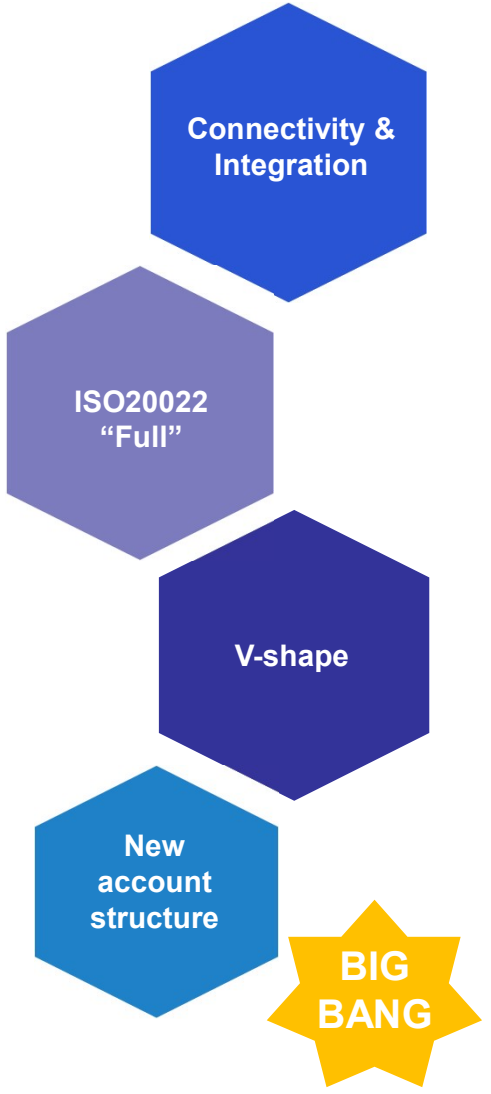
Nov.2021 and beyond

The Payments industry adopting ISO20022



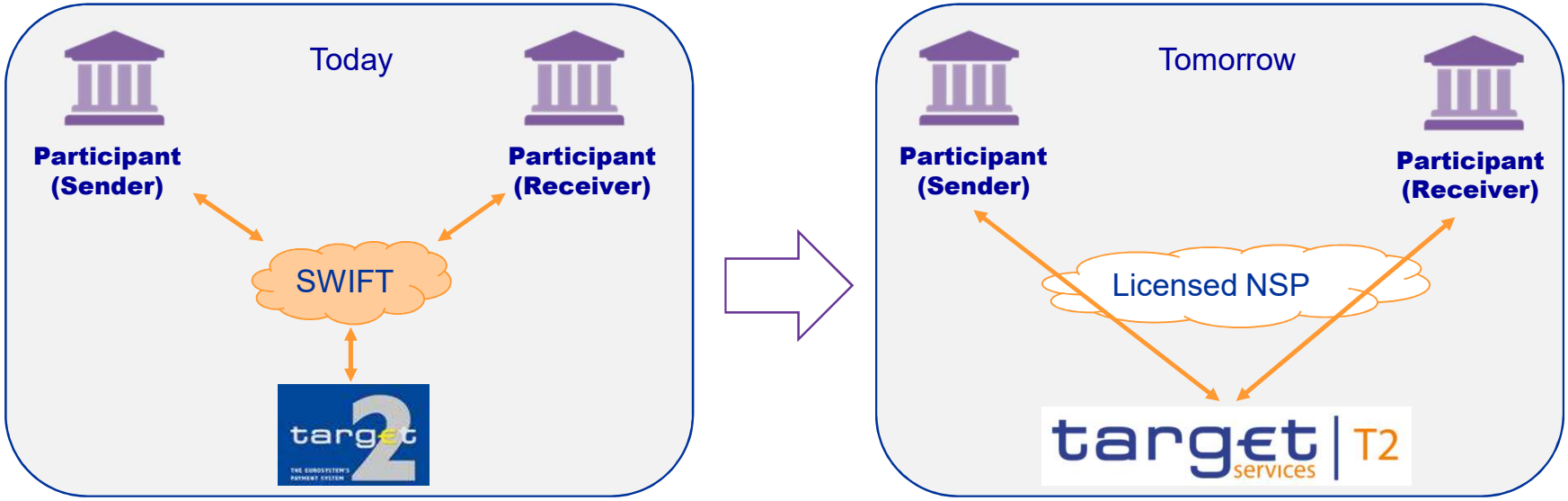
Future Eurosystem services – key aspects





T2-T2S Consolidation
Big-bang migration

- Migration to ISO20022 standards with switch from Y-copy to V-shape
- No co-existence of ISO20022 and MT messages
- Network service provider agnosticism



Source: ECB

EUROPEAN CENTRAL BANK
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MIP News

SIA-COLT and SWIFT are awarded the ESMIG concession

17 May 2019

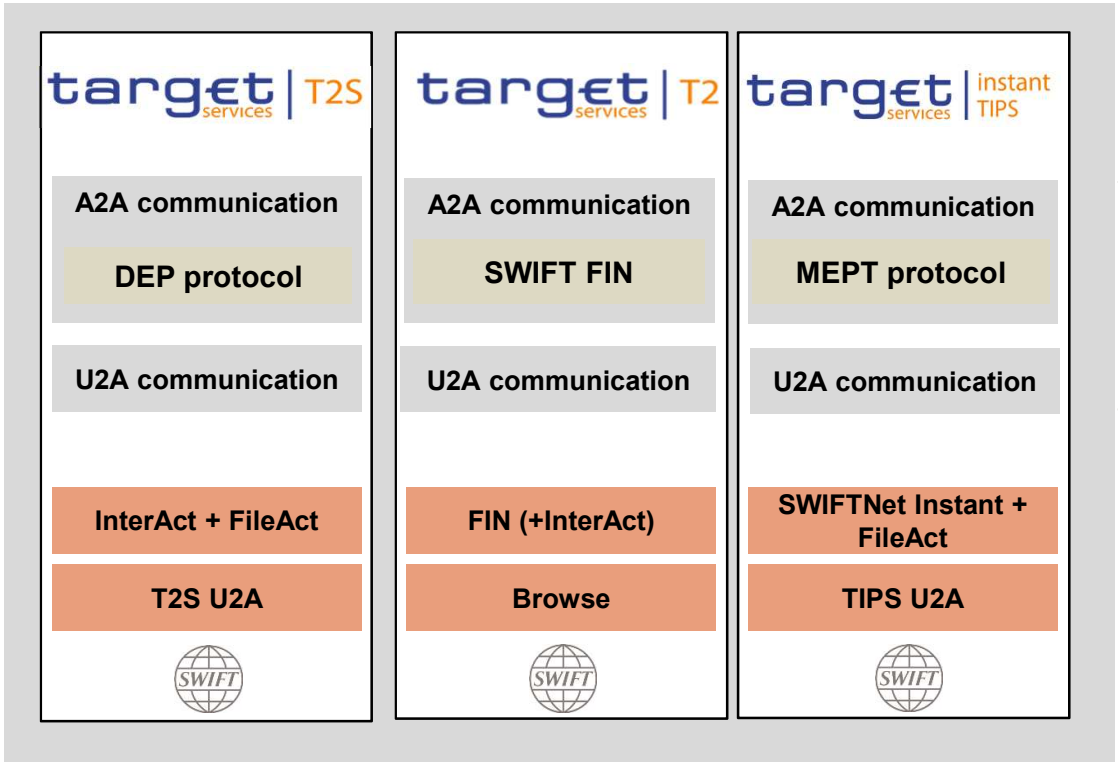
The two network service providers have completed the second stage of the ESMIG tender, after the selection panel accepted their bids. More details are available on the Banca d'Italia's e-procurement portal.

Subject to ongoing mandatory checks, SIA-COLT and SWIFT will sign a contract with the Eurosystem to offer connectivity to all Eurosystem market infrastructure services via the Eurosystem Single Market Infrastructure Gateway (ESMIG).

The ESMIG will make it possible for market participants to use a harmonised interface to connect to the three TARGET Services (TARGET2, T2S and TIPS) and the Eurosystem Collateral Management System (ECMS).

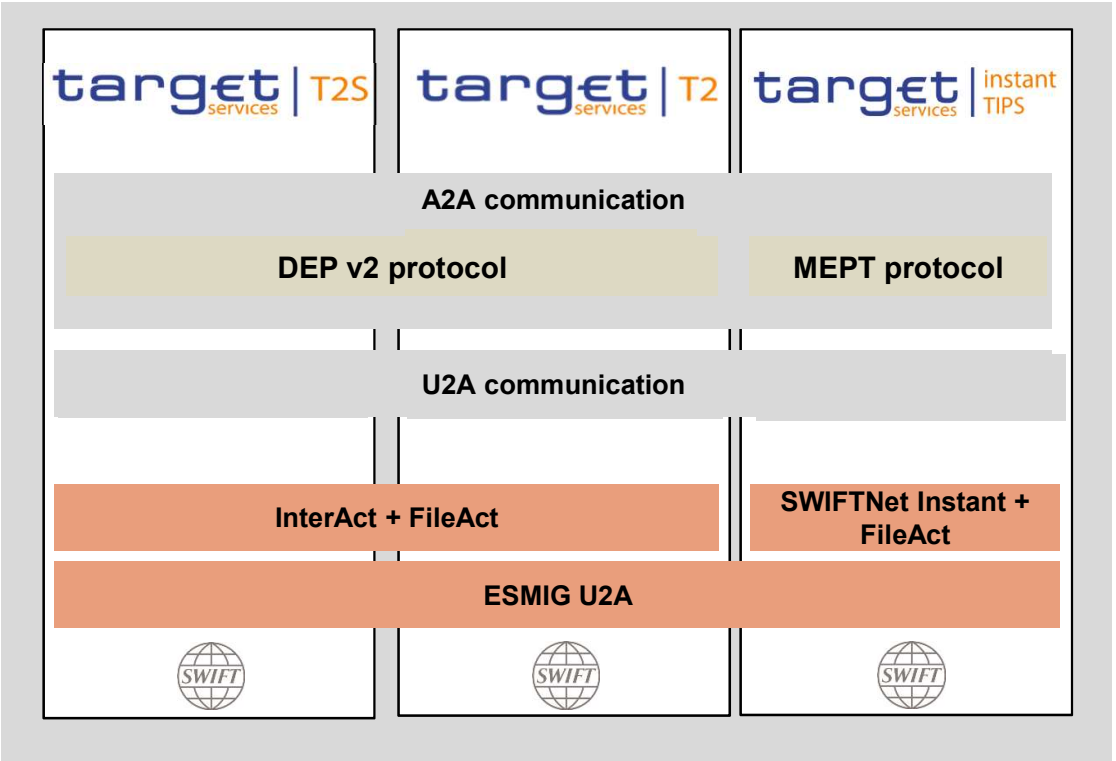
How does the “Eurosystem Single MI Gateway” operate like today with SWIFT

Connectivity & Integration



How will the “Eurosystem Single MI Gateway” operate like tomorrow with SWIFT

Connectivity & Integration

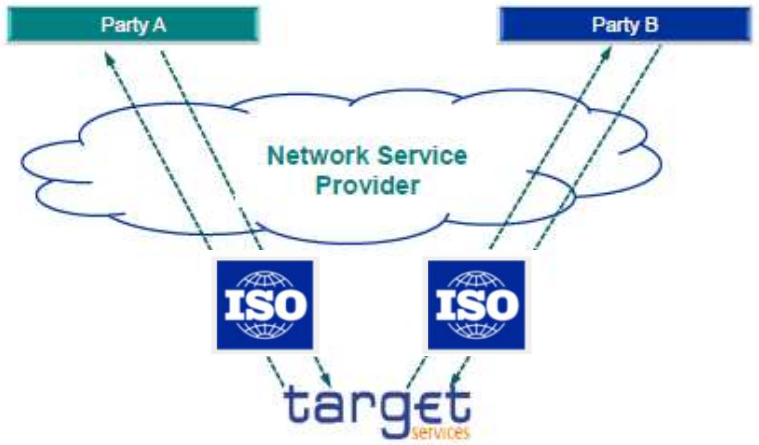


- Opportunity to re-use T2S and/or TIPS investments
- Opportunity to re-use SWIFT investments & procedures

Key characteristics for T2:
Impact of a migration from MT to ISO20022 Fully Fledged

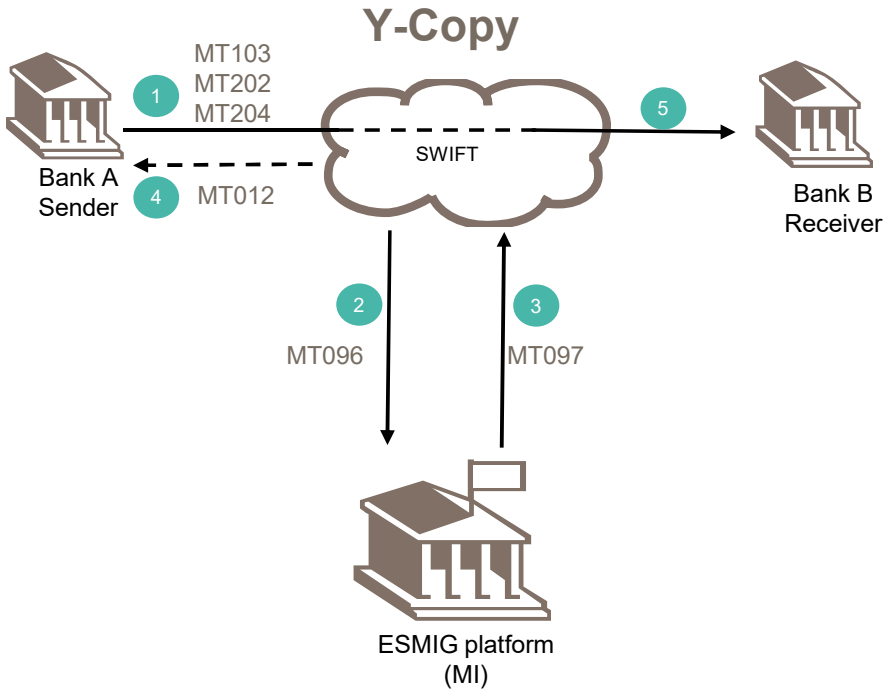
ISO20022 "Full"

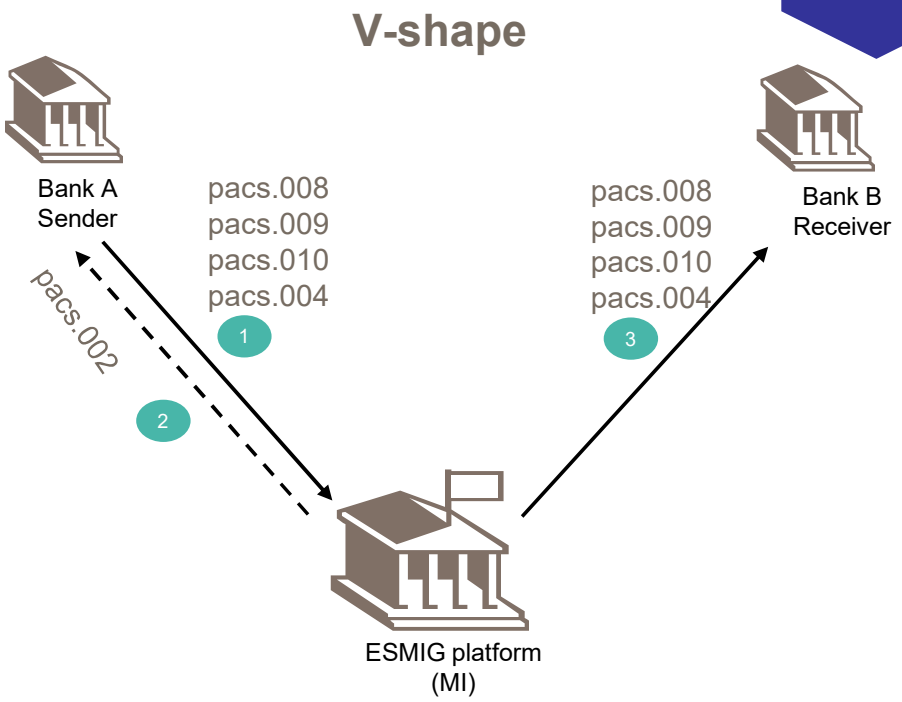
- **Fully-fledged approach:** In T2, the ISO 20022 message standard shall be implemented to its full extent, i.e. no "like-for-like" approach is followed in order to allow the usage of additional fields supported by ISO20022
  - ➡ **Opportunity to improve customer services & reconciliation**
  - ➡ **Opportunity to facilitate compliance process**
- **Message portfolio:** More than 50 ISO messages including 4 new messages (WIP). New workflows
  - ➡ **Opportunity to increase automation**
- **Message versioning:** T2 will support only one message version at a time.
- **Big bang:** All messages will be replaced at the same time at the migration weekend in Nov 2021, i.e. no phased implementation is foreseen. Moreover, the Eurosystem does not plan to offer any message conversion service.



Message flows

Y-copy versus V-shape





Y-copy processing steps:

1 Bank A sends a payment message to SWIFT
2 SWIFT copies the payment message to the MI platform for authorization
3 MI platform sends an authorization message to SWIFT
4 (Optional) SWIFT sends a Settlement notification message to Bank A
5 SWIFT delivers the payment message to Bank B

V-shape processing steps:

1 Bank A sends a payment message to the MI platform
2 (Optional) Upon successful validation, the MI platform sends a settlement Confirmation message to Bank A
3 The MI platform delivers the payment message to Bank B

Central Liquidity Management & New account structure

New account structure

Today: T2 as main account

T2

- Open market
- Standing facilities
- Cash operations
- Intraday credit
- Billing
- Ancillary systems
- RTGS Payments

T2S DCA

- Securities

TIPS DCA

- Instant Payments

2021: Main Account & RTGS DCA

- Open market
- Standing facilities
- Cash operations
- Intraday credit
- Billing

MAIN ACCOUNT

T2S DCA

- Securities

RTGS DCA

- Ancillary systems
- High Value Payments

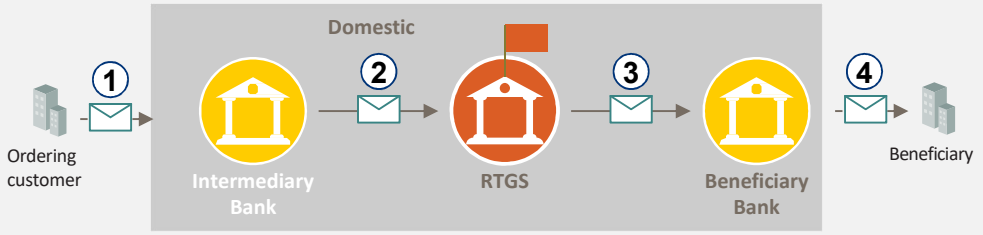
TIPS DCA

- Instant Payments

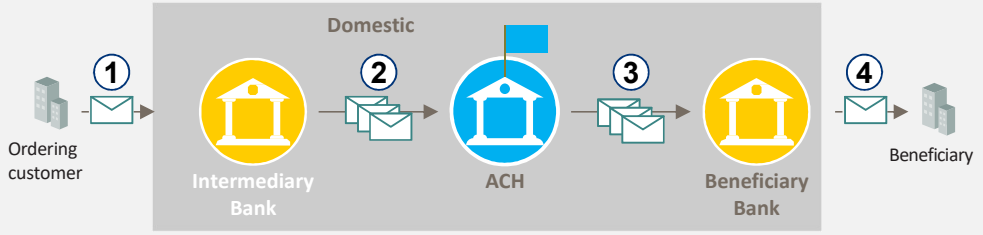
➡ **Opportunity to serve new/more indirect clients**

Clearing and Settlement systems – migration opportunities

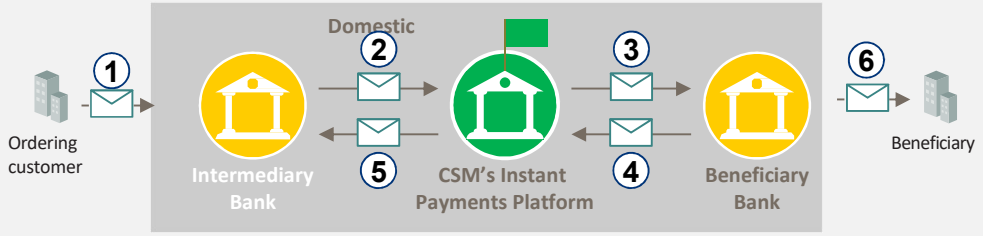
RTGS



ACH



Instant



➡ **Once RTGS, LVP and Instant Payments will all have adopted ISO20022, will some flows migrate from one system to another?**

SWIFT committed to supporting the European financial industry in its transformation

SWIFT Connectivity services

SWIFT committed to become ESMIG NSP and allow SWIFT community to re-use the generic SWIFTNet messaging services for all Eurosystem services (TIPS, RTGS, CLM, T2S)
SWIFT Single Window and related value added services (FCC, BI, gpi, CSP…)

SWIFT Services

- **Training** to understand the scope of the changes, new functionalities and the ISO20022 messages that will be used
- **Business advisory** services to analyze the strategic impacts and opportunities of the T2-T2S consolidation and EURO1 revamp, understand the operational changes and new functionalities
- **Standards expertise** services to get a detailed understanding of the ISO20022 messages to be used and to get support in the definition of the overall ISO20022 migration strategy
- **Technical advisory** services to understand impacts on infrastructures and design the future model
- **Project Management**

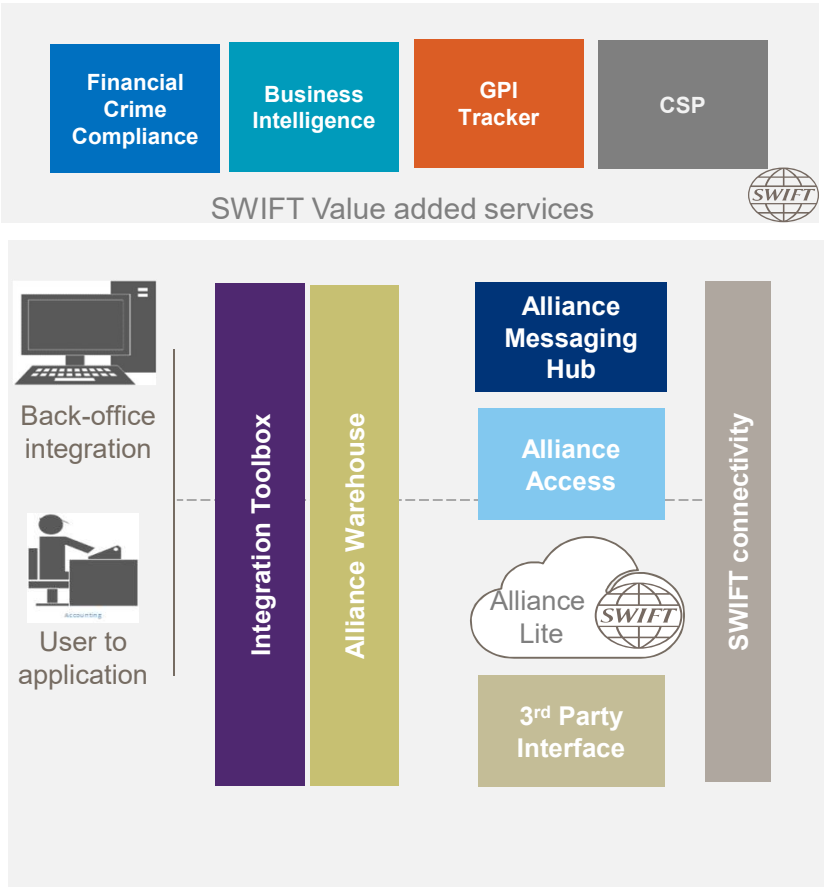
SWIFT Products

Testing products and services
Integration, Translation, Validation, products

SWIFT Single Window for financial messaging

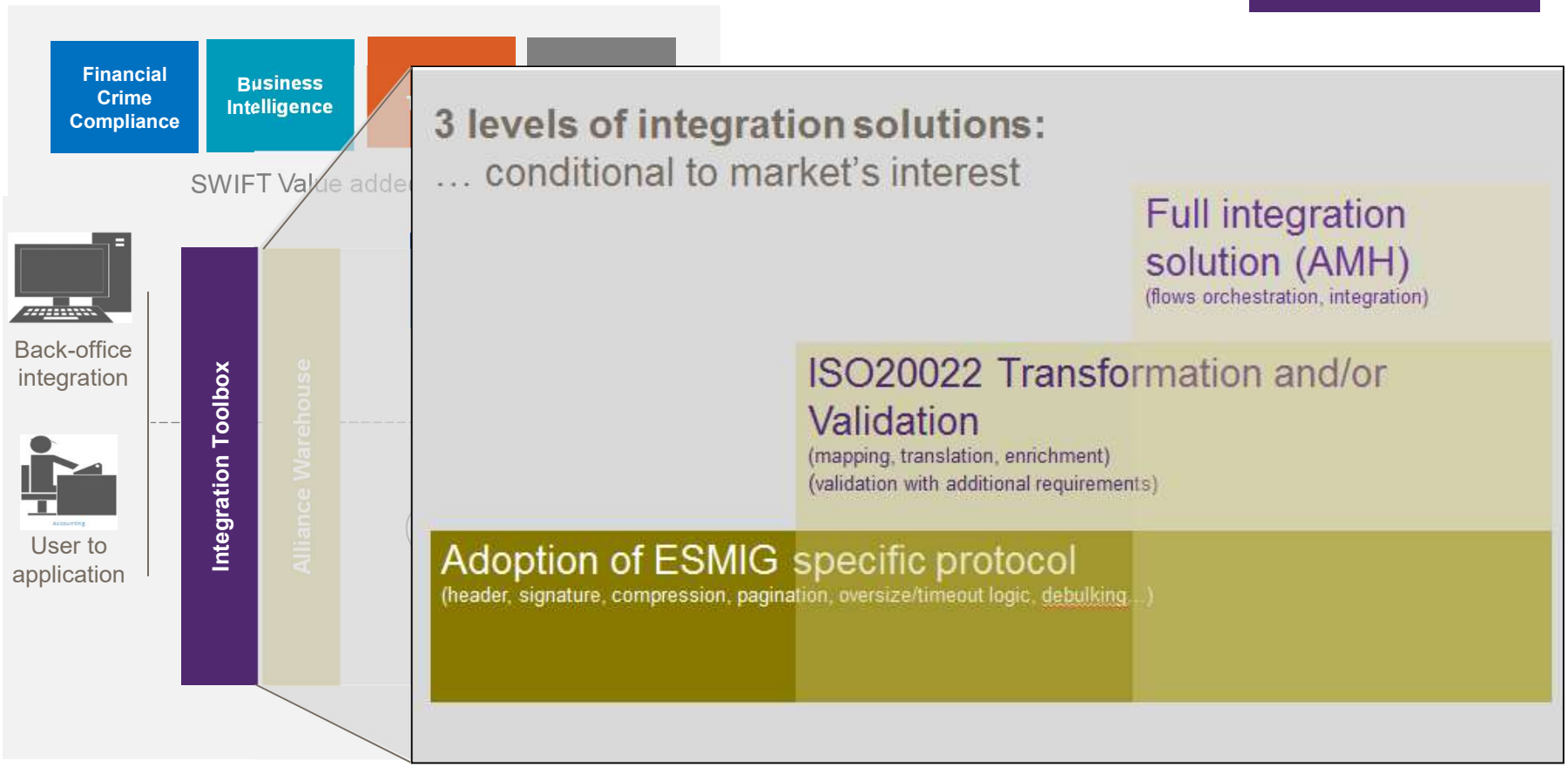
supporting all MI flows: user to application, application to application and APIs

Eurosystem 2020 ready



Overview of SWIFT value added services

Value added services



How can SWIFT help testing your developments
before official T2-T2S consolidation test period
… conditional to market's interest

Testing of Message Payload and Header
U2A

Readiness Portal

Testing of Messages Payload and Headers
(A2A, prop.additional requirements)

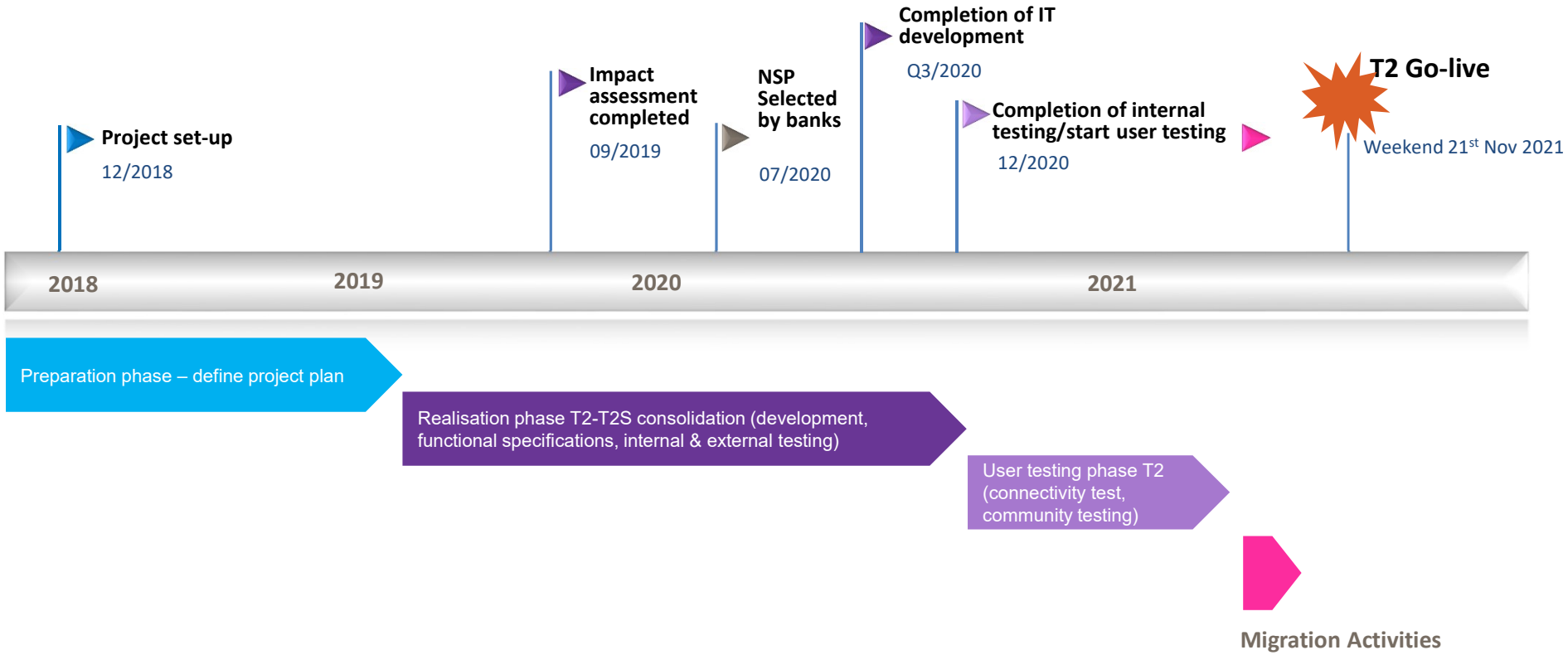
T2-T2S Validator

End-to-end testing
(incl. simulation of T2 feedback)

T2-T2S Simulator

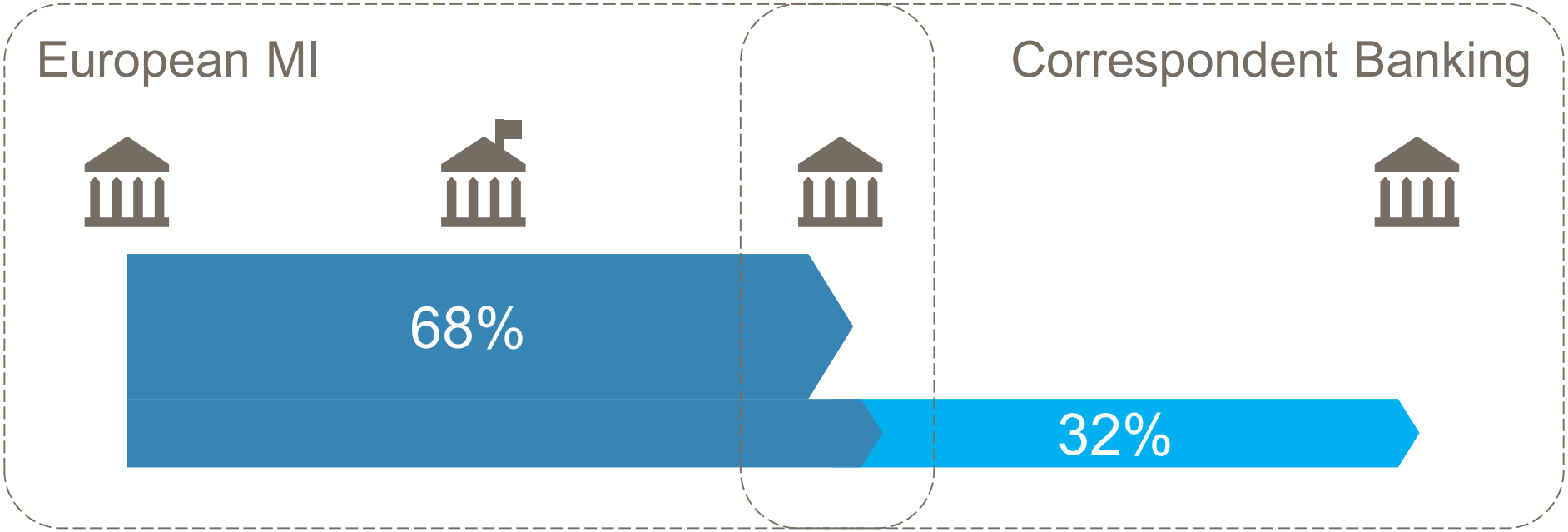
High-level ESMIG industry project for market participants

Eurosystem Vision 2020



ISO 20022 migration

How does the T2 consolidation relate to the ISO migration worldwide



- Big Bank migration to ISO 20022 in Nov 2021
- Following HVPS+ guidelines
- TARGET2 does not support network validation

- MX / MT coexistence as of Nov 2021
- Following CBPR+ guidelines
- SWIFT services supporting validation and translation

SWIFT ISO20022 standards migration

Many-to-Many

ISO 20022 migration: community consultation

September 2017

Prompted by the emergence of ISO 20022 as a global standard for payments, SWIFT launched study on the use of ISO 20022 for cross-border business

April 2018

Community consultation, seeking industry feedback on drivers for migration to ISO 20022 and high level proposal to address the practical challenges

June 2018

Detailed feedback from over 100 respondents (incl. 44 country level responses, individual feedback from financial institutions and key market infrastructures) representing majority of SWIFT's top users.

September 2018

The community feedback, together with recommendations on how to proceed, was presented to the SWIFT Board on 19th September.

ISO 20022 migration: board decision

Payments

SWIFT will facilitate industry migration of cross-border payments and cash.

Start date November 2021 (aligned with the adoption plans of High Value Payments Systems in the Eurozone)

4 years coexistence

SWIFT will provide a shared service to translate between ISO 20022 and MT

Securities

ISO 20022 capability for cross-border securities flows to use on an opt-in basis

Decision not to set an end date for the use of ISO 15022 (MT category 5 messages) proposed

FX/ Treasury, Trade Finance

Responses to the consultation indicated little appetite to stop using MT messages at this time

No plans to migrate to ISO 20022 have been made

Migration will include all users of payments and cash management messages (MT cat. 1, 2, and 9)

Background: ISO 20022 FOR CROSS-BORDER TRAFFIC (IR 807, December 2018)

Scope:

Payment messages categories 1, 2 and 9

ISO 20022 capability for Securities on opt-in basis

No migration of treasury/ FX and trade finance

Timing:

2021 – 2025

(4 years of coexistence)

Continuous engagement with community and application vendors

Readiness by 2021:

gpi: Mandatory UETR

Financial Crime compliance and BI suite available as of start including in-flight screening of ISO

Market Practice:

New working group for Cross-Border Payments and Reporting (CBPR+): usage guidelines and translation rules on MyStandards

Testing environments:

Allow to test against market practice, translation rules and business process

Network services:

End to end transmission in initial standards used (MT or MX) to ensure integrity and authentication of data

Translation:

Based on CBPR+ Rules

Central translation for all customers

Can optionally be triggered from interface

Not charged at the outset

Structured party data:

Enforced by market practice rule

and

validated on the network

+ monitoring and controlled standards releases aligned on FIN

CBPR+ Scope and objectives

Create global ISO 20022 Market Practice and Usage Guidelines (UGs) for selected messages from the Fin Cat 1, 2 & 9 set of messages, which will be validated on the SWIFT Network in the many to many space.

SR 2019

Approach consistent with the programme objectives :

- Enhanced ISO 20022 guidelines -> move away from the Like for Like principle
- Interoperable with HVPS+ Guidelines. Differences should be justified and documented
- Incorporate gpi requirements -> e.g. UETR
- Incorporate securities requirements for the cash-leg of a securities transaction
- May include new messages/new functionalities -> e.g. Return & Status messages
- Validated on the SWIFT Network -> not necessarily the case for HVPS+
- Maintained on a yearly basis -> governance to be developed by the group

CBPR+ Scope and objectives 2/2

SWIFT will prepare CBPR+ compliant translation rules from MT to ISO to MT. CBPR+ members will be invited to review and comment the rules progressively as of end Q2 2019

Translation rules approach

- Built on « Enhanced » ISO 20022 CBPR+ guidelines -> truncation required when translating ISO 20022 CBPR+ messages to MT.
- Truncation Flag will be used on FIN during co-existence period, i.e. 2021 -> 2025
- Usage Guidelines and Translation Rules documentation will be made publicly available on MyStandards (format to be confirmed), and available for testing in the Readiness Portal H2 2019

Migration approach

2019: ISO 20022 for cross-border payments **specifications**

November 2021: start of migration aligned with HVP Systems in Europe

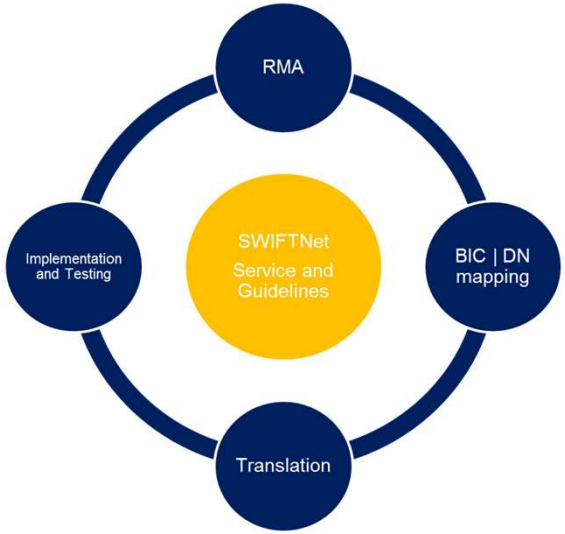
4 years coexistence

Objective:
Create common, global implementation of ISO 20022 for payments to ensure interoperability

Objective:
Work collectively to make sure all members have the capability to receive ISO (maybe with translation)

Objective:
Leverage the SWIFT products and services to facilitate the co-existence of formats

IR 818 *ISO 20022 MIGRATION COEXISTENCE MEASURES* ***BACKGROUND***



- In September 2018 the SWIFT Board approved plans to facilitate a community migration of cross-border payments and cash reporting traffic to ISO 20022
- In December 2018 this decision was confirmed and more details of the migration were provided to the community (IR 807)
- All users of cross-border payments and cash reporting messages need to prepare for the start of migration in November 2021
- IR 818 sets out key details of the measures SWIFT will put in place to ensure community interoperability during the four years of coexistence that follow

IR 818 *ISO 20022 MIGRATION COEXISTENCE MEASURES*

SWIFTNet Service and Guidelines

New many-to-many SWIFTNet service
- All users automatically enrolled in time for migration in November 2021
- Validation of ***Cross-border Payments and Cash Plus (CBPR+)*** market practice guidelines

RMA

Relationship Management Application
- Available for ISO 20022 over InterAct
- Enable automatic conversion of MT relationships to ISO 20022

BIC | DN mapping

Simplified rules for addressing messages and address mapping
- BIC to Distinguished Name (DN)
- BANKCC99ABC ➔ *ou=abc,o=bankcc99,o=swift*

Implementing and Testing

Implementation and testing resources
- Interactive documentation of message guidelines and mappings
- Testing portals
- Translation sandbox

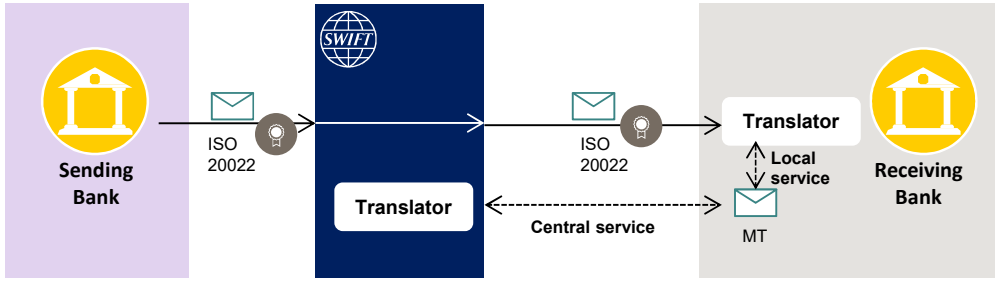
Translation

Translation service (see next slide)
- *API:* from ISO 20022 to MT *and* MT to ISO 20022
- *In-flow:* from ISO 20022 to MT only

IR 818 *ISO 20022 MIGRATION COEXISTENCE MEASURES / **TRANSLATION***

API

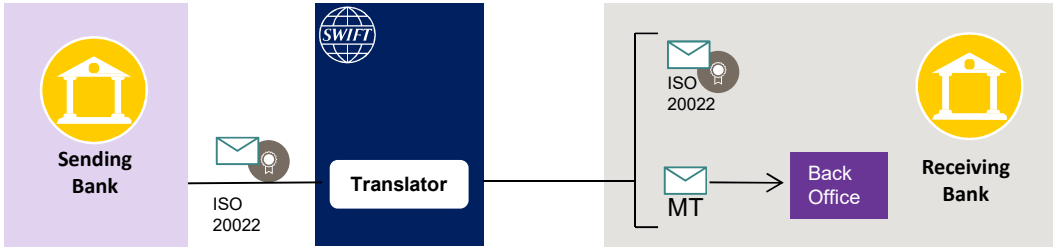
For more advanced users and scenarios



- Integration managed by the user
- Translation can be in either direction
- Send or receive side
- Two options:
  - Centrally managed service exposed using the SWIFT API platform
  - Local (on premises) API

In-flow

Emphasis on simplicity and minimal disruption



- Sender signs and sends ISO 20022
- Both original and MT formats are delivered
- MT format is routed according to the routing logic already configured for MT messages
- SWIFT interface changes required; available 2020

Limitations

Translation from ISO 20022 to MT risks truncation or loss of data:

- SWIFT Sanctions screening will be able to screen ISO 20022 before translation
- Particular concern for *intermediaries*

Pricing principles

In-flow

- Free in first year of coexistence; chargeable after

API

- *Central*: free in first year; chargeable after
- *Local*: standard SWIFT Translator pricing

IR 818 *ISO 20022 MIGRATION COEXISTENCE MEASURES /* ***COMMUNICATION AND NEXT STEPS***

Quarterly **updates on the overall migration programme** shared with the Board (either verbally or in the form of Information Reports), and the wider community

Dedicated briefing sessions for all **Chairpersons** to support **discussions in local communities**

Progress updates on CBPR+ published in Standards Quarterly Review (SQR), on swift.com (see below), and on a dedicated page on MyStandards

A dedicated **ISO 20022 migration information hub** on swift.com

+ quarterly updates via email **newsletter**

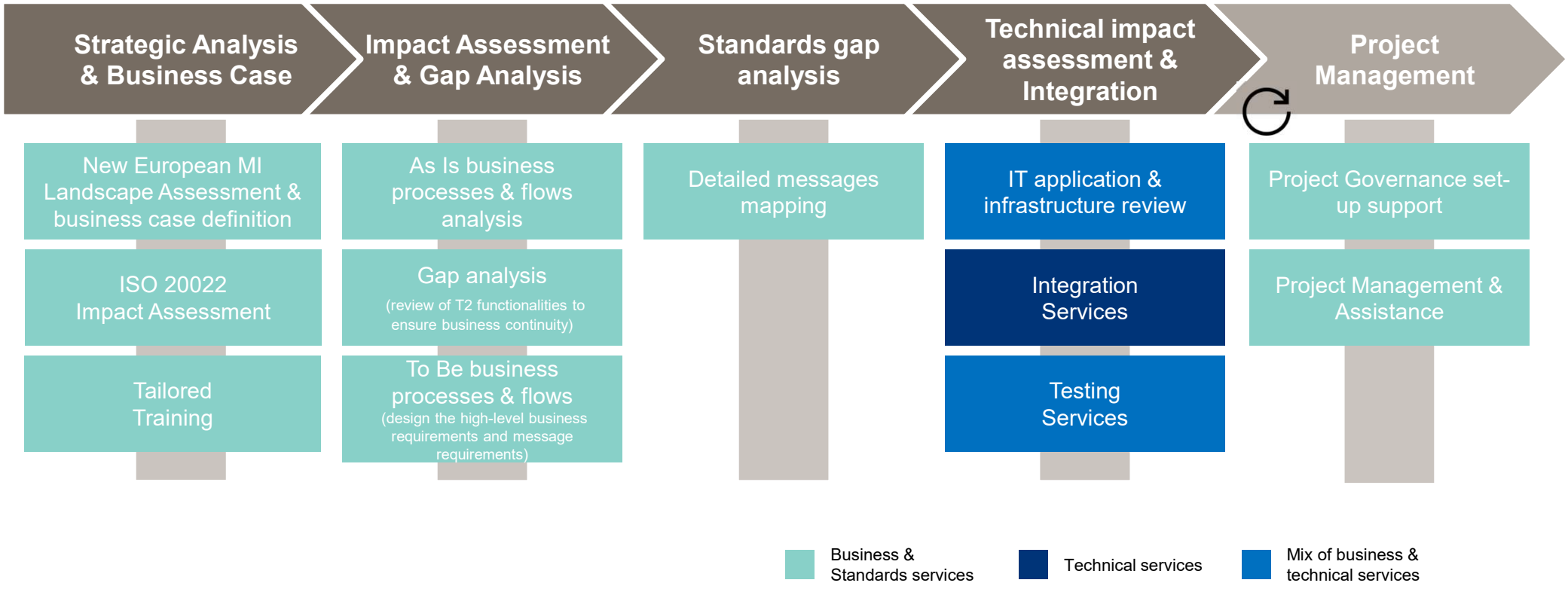
SWIFT events (Business Forum, Regional Conference, Standards Forum) and dedicated sessions at Sibos in London

To ensure maximum coverage and track awareness per connected institution, regional campaigns aimed at reaching all users will be set up and centrally monitored.

Appendix

Modular approach for professional services

How SWIFT can assist you with the new European MI evolution adoption/readiness



SWIFT Training roadmap for European MIs evolution

Tailored learning

Advanced functional training*

The content of such a training can include (to be further defined and tailored with the customer):

Module 1: Key functional aspects of consolidated TARGET services + Introduction to ISO 20022

- High-level overview of TARGET services provided through ESMIG (incl. T2, T2S, TIPS + common components)
- Detailed overview of the functional scope (e.g. new account structure model, new Central Liquidity Management, liquidity management tools and features)
- General principles for messaging (fully fledged approach for ISO20022, switch from Y-copy to V-shape)
- Understanding of ISO 20022 (generic methodology, principles, benefits, processes, xml basics)
- ISO 20022 implementation aspects (e.g. implementation strategy, global market practices, BAH)

Module 2: Messaging aspects (ISO20022 in practice)

- Overview of message portfolio used in scope for future Eurosystem MI services (with focus on ISO20022 for payments and cash-related messages in CLM + RTGS), including:
  - Core Payment messages and practical examples (i.e., pacs.002, pacs.008, pacs.009, pacs.010, pacs.004)
  - Core Liquidity Management messages and practical examples (i.e., camt.050, camt.025, camt.053, camt.054)
  - *Use of case scenarios => Depending on the learning strategy, this module can follow a service-agnostic or a service-specific approach*

** With focus on TARGET2, with the option to cover as well EURO1 upon customer request.*

ISO 20022 bootcamp

ISO20022 for Payments

ISO 20022 for Securities

SWIFT**Smart**

SWIFT Translator

What is *SWIFT Translator* ?

SWIFT Translator is a software tool to map and translate between different data format standards

It is designed to be installed at the customer's site and be used and run by the customer

SWIFT maintains the *Translator* software similarly to other SWIFT software components

- SWIFT delivers patches, updates and functional enhancements

Translator is network independent

- *Translator* can be used either independently or together with SWIFT infrastructure
- *Translator* does not require other SWIFT software components

Translator supports translation from *any* to *any* data format

Endless Translation Capabilities

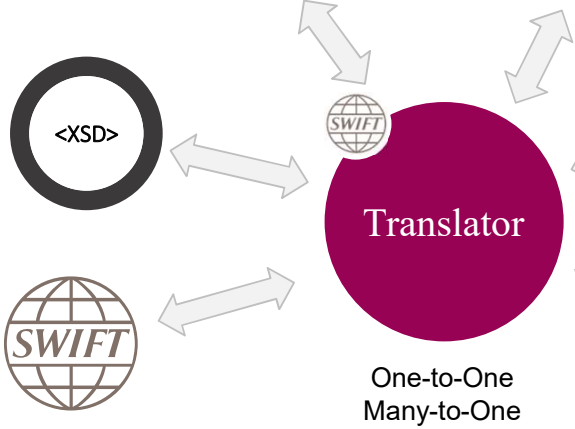
Combine a state-of-the-art tool with our unique Standards Expertise

Proprietary
Build your format from scratch and use it as input/output (tag separated, fixed width, COBOL, JSON…)
e.g. ISO 20022 ↔ Tag Separated

Excel, CSV
Import samples and translate to/from Excel or comma separated format
e.g. MT ↔ CSV

Any XML
Import a XSD schema and use it as a input/output format
e.g. XML ↔ ISO 20022

Other Financial Formats
iDoc, FIX, FpML, EDI(FACT), X12 SECOM, SIC, BAI, BACS,…
e.g. FPML ↔ ISO 20022



SWIFT MT / ISO 20022
Perform translations re-using SWIFT Libraries and Network Validated Rules
e.g. MT ↔ ISO 20022
ISO 20022 ↔ ISO 20022

Usage Guidelines
Import and re-use Usage Guidelines together with restrictions and rules defined in MyStandards
e.g. MT 101 ↔ SEPA pain.001.001.03

One-to-One
Many-to-One
One-to-Many

Translator consists of two components:

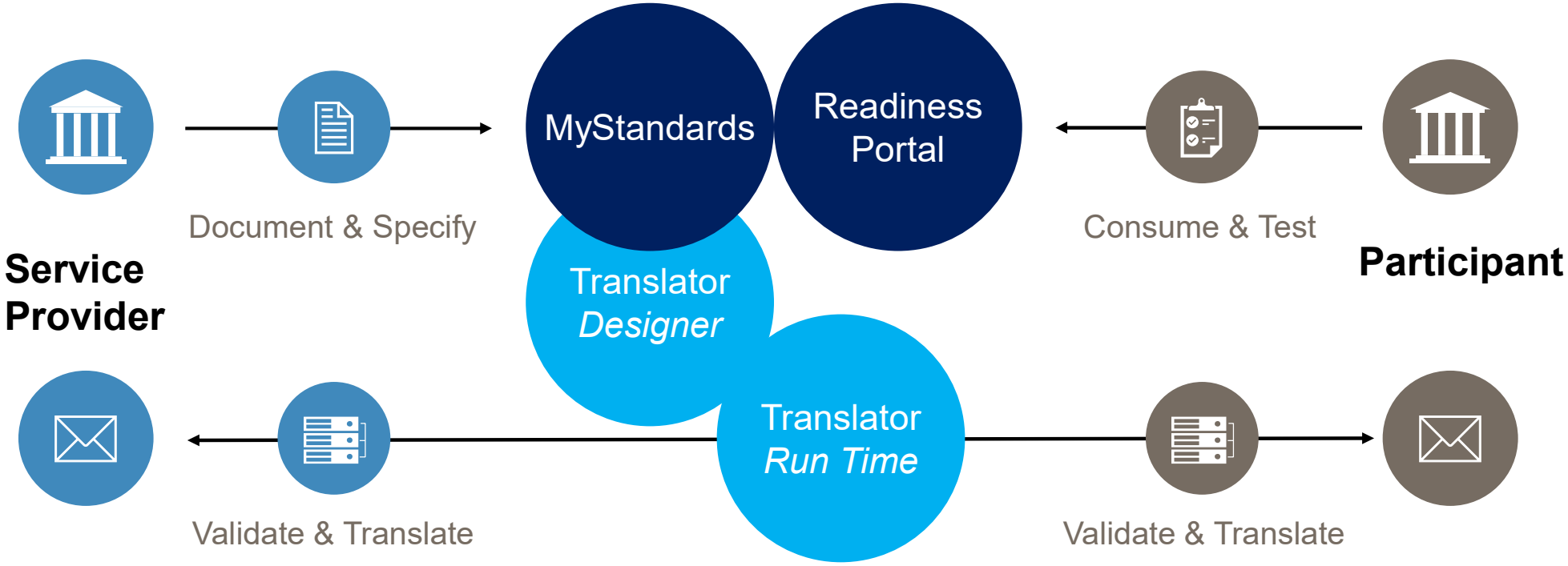
1) SWIFT Translator *Designer:* Graphical User Interface to

- Define data formats
- Define validation rules
- Integrate with MyStandards covering any data formats and validation rules
- Define mapping rules and cardinality: one message to one, one to many, many to many, etc.
- Test and validate rules
- Define data enrichments e.g. by using external data bases
- Build and expose the Translator *Runtime*

2) SWIFT Translator *Runtime:* software to

- Execute data format validation
- Execute data format translation
- Execute data enrichments if applicable

MyStandards, Readiness Portal and Translator complement each other



Supporting definition to implementation

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