



SWIFT

APIs, Identity & Connectivity (APIIC) Overview

March 2019



- Agile @ SWIFT



- SWIFTs API Technology Strategy



- Update on use cases and Product Roadmap



- SDK Pilot



- New Connectivity Framework (concept)

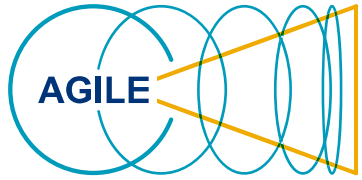


- Community Engagement Framework

Agile @ SWIFT



SWIFT is undergoing an Agile transformation



- **Our Community is expecting an enhanced customer experience, agility and nimbleness.**
- **Market forces are making Agile a norm rather than an aspiration**
- **We believe that Agility will drive innovation & effectiveness and increases the quality of our products**

APIs, Identity and Connectivity (APIIC) Tribe vision

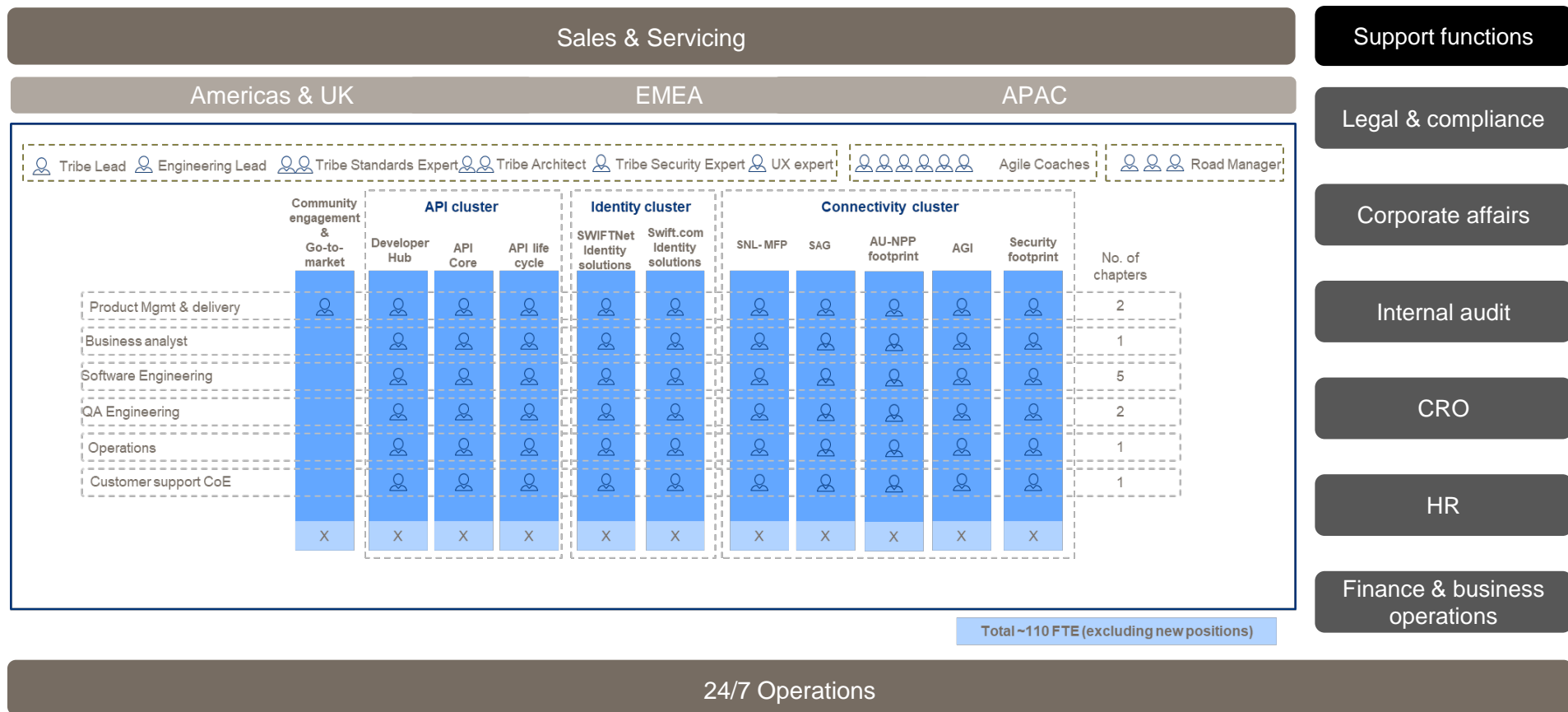
APIIC's vision

‘To provide state-of-the-art & innovative API, Identity and Connectivity solutions, delivering a frictionless and sustainable customer experience’

Drivers

- Enhanced user experience
- Simplified and frictionless technology
- Light / cloud based footprint
- Identity solution harmonization
- Customer feedback embedded in short, iterative product development cycles

Illustrative APIIC tribe structure



APIs and Platform economics

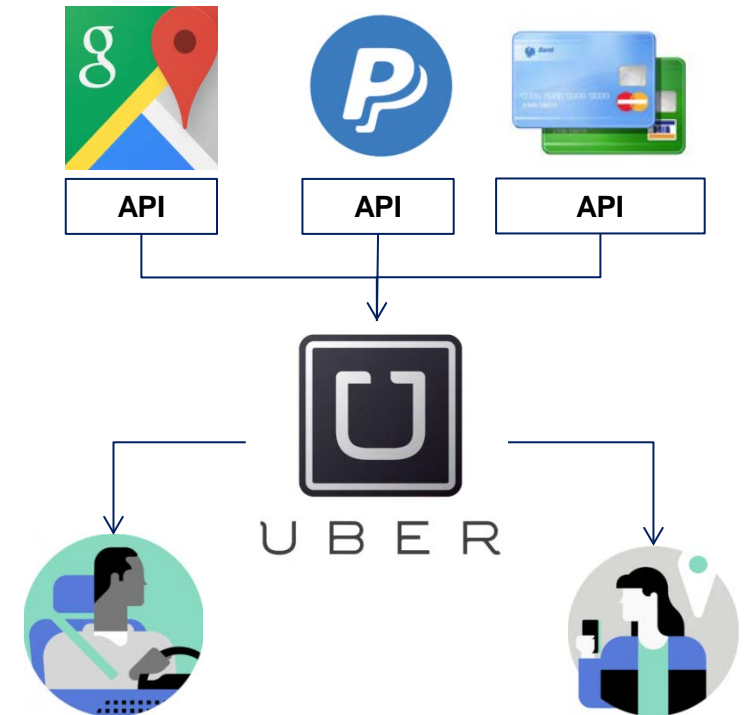


What are APIs and why use them?

- ✓ Application Programming Interface (API) exposes company's data and services via a simple interface enabling faster innovation and reach.
- ✓ API technologies are one of the most important tools in digital business design and transformation of business models.
- ✓ They give developers the ability to leverage complex services without the need for extensive development.
- ✓ They offer an immense opportunity for driving customer-centric innovation in financial services.



Illustrative example

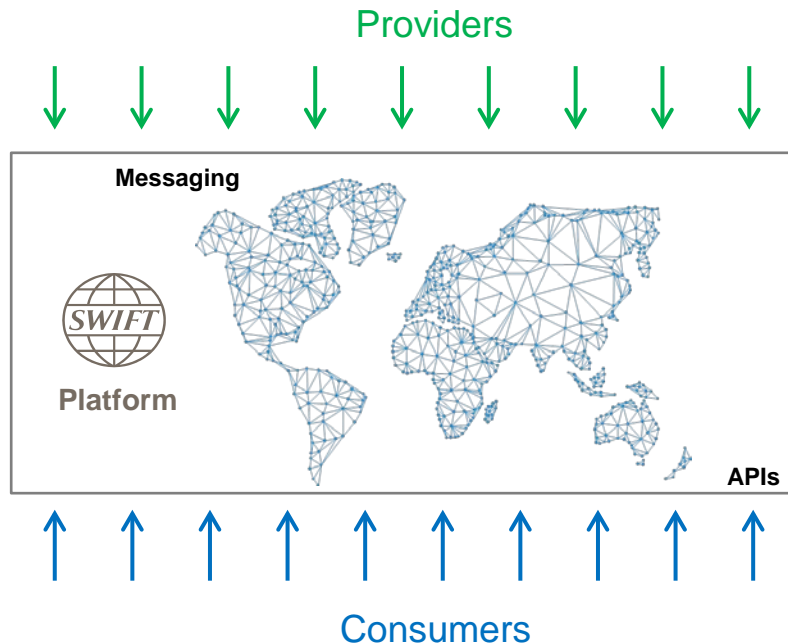


Enables Uber to focus on their core business, leveraging best of breed technologies via APIs., creating a seamless customer experience, connecting riders with drivers.

APIs are powering the Platform Revolution

Platforms are transformative business models based on enabling value creation via interactions between providers and consumers in an open environment, fostering collaboration.

These two sides of the platform constitute the ecosystem, with the objective of maximizing value by fostering partnerships, collaboration and monetization, with the underlying platform enabling these interactions and providing security, neutrality and governance.



Examples of API enabled platforms and ecosystems across industries (non exhaustive)

amazon



NETFLIX



SWIFT API Technology Strategy



SWIFTs approach to developing API products, for its own content as well as community content, is founded on three pillars

Modelling

Collaborative process of converting business process into technical specifications to design APIs, and finalize as API contracts.

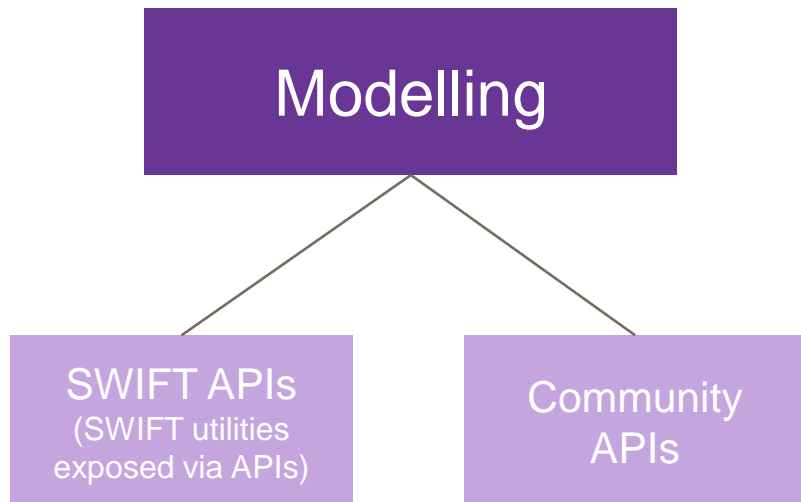
Publishing

Publishing API contracts on the developer portal for the Community to self serve what is available, and can test using a sandbox

Consumption

Enabling seamless connectivity to consume APIs, bringing content providers and consumers together

SWIFT enables harmonized API contract modelling for our own content, as well as for community content...



Illustrative Examples	SWIFT APIs	Community APIs
GPI (Get Transaction Details)		
SWIFTRef		
NAV (Net Asset Value)		
GTV (Global treasury Viewer)		

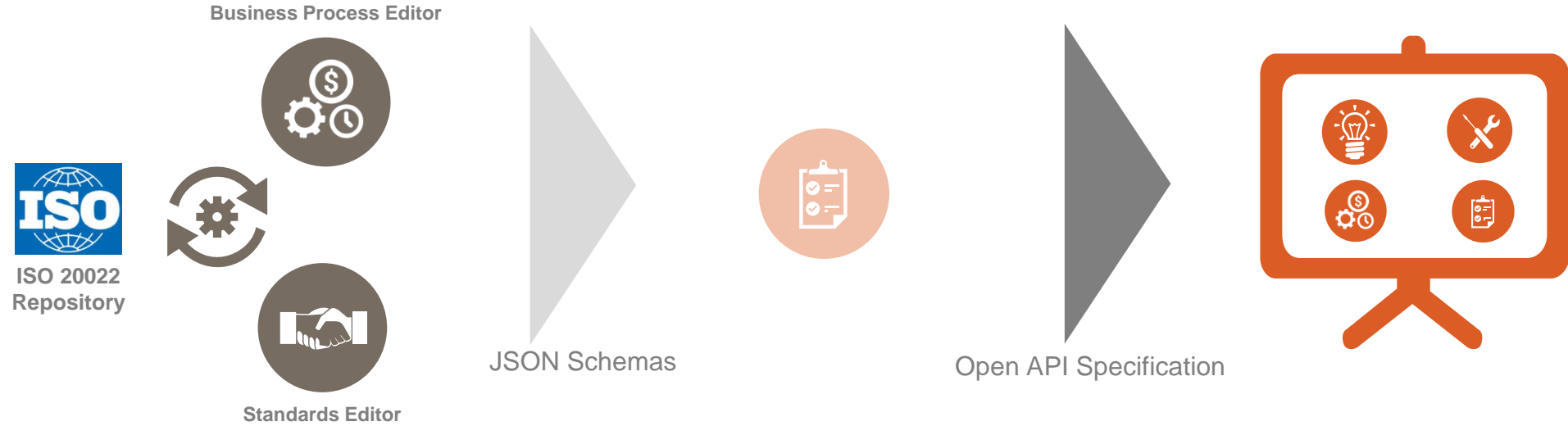
Community Use case details in slide 14 onwards

...and follows a collaborative modelling process, powered by SwaggerHub

Business process definition

Conversion to API contract

Publication of API contract

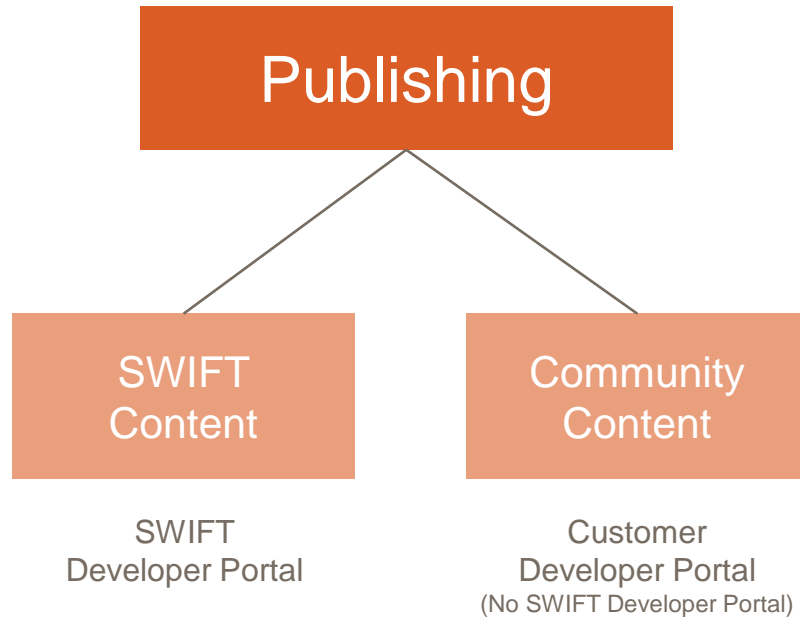


- Business Transactions
- Resources (Message Components)
- ISO 2022 registration process and governance

- API specific information (request parameters, endpoints, URLs,)
- Generic APIs
- OAS 3.0 files
- API registration by SWIFT or ISO 2022

- Enrich with error handling, authentication flows
- Create sandbox
- Create environment for review/comments
- SWIFT governance

SWIFT enables publishing of APIs via our own developer portal, as well as provides the option to publish on the customers developer portal



Illustrative Examples	SWIFT Portal	Customer Portal
GPI (Get Transaction Details)		
SWIFTRef		
NAV (Net Asset Value)		
GTV (Global treasury Viewer)		

Community Use case details in slide 14 onwards

Our developer portal provides easy access to SWIFT content, along with Sandboxes to test and experiment

SWIFT Developer Portal

APIs Resources Support About

Search

Login Register

Innovate. Build. Connect.

Integrate SWIFT's APIs to consume financial services in a trusted environment using ISO 20022 standards to transform your applications.

Register Now

Tracker API v1

Overview Documentation Sandbox

About

In today's world, customers expect greater transparency. When they send a payment, they want to know what is happening with it and when it has been received in cross-border payments as each bank has only been able to guarantee and share information on its own leg of the payment.

SWIFT gpi now enables banks to provide end-to-end payments tracking to their customers. The SWIFT Tracker – 'in the cloud' and securely hosted at SWIFT – provides a payment transaction from the moment it is sent right up to when it is confirmed. SWIFT gpi banks are able to log in to the Tracker to instantly check the status of a payment and received. They can even improve their liquidity management by having visibility on initiated payments already on their way.

Integration of the gpi Tracker API with applications allows calls to be made to retrieve payment information, and update payments.

Benefits

- Fast payments
- End-to-end tracking
- Fee & FX transparency
- Reduced Costs
- Optimise liquidity
- Easy to implement
- Credit confirmations
- Unaltered remittance info

Learn more at [SWIFT.com](https://developer.swift.com/)

POST /status_confirmations

Request samples

Payload

application/json

Copy Expand all Collapse all

```
{
  - "update_payment_status_request": {
    "from": "CCLABEB0",
    "business_service": "121",
    "transaction_identification": "97ed4827-7b6",
    "instruction_identification": "CCLABEB0ACSF",
    + "payment_status": { ... }
  }
}
```

Response samples

200 400 401 404 429 500

502 503 504 default

application/json

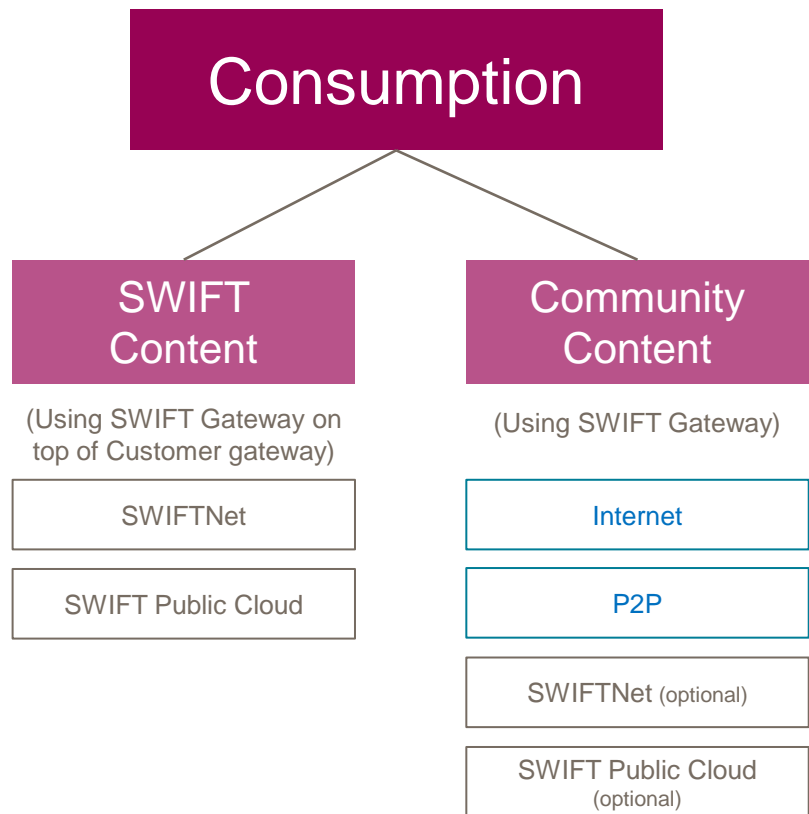
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```
{
  - "update_payment_status_response": {
    "network_reference": "CCLABEB0XXX-2017-05-1"
  }
}
```



<https://developer.swift.com/>

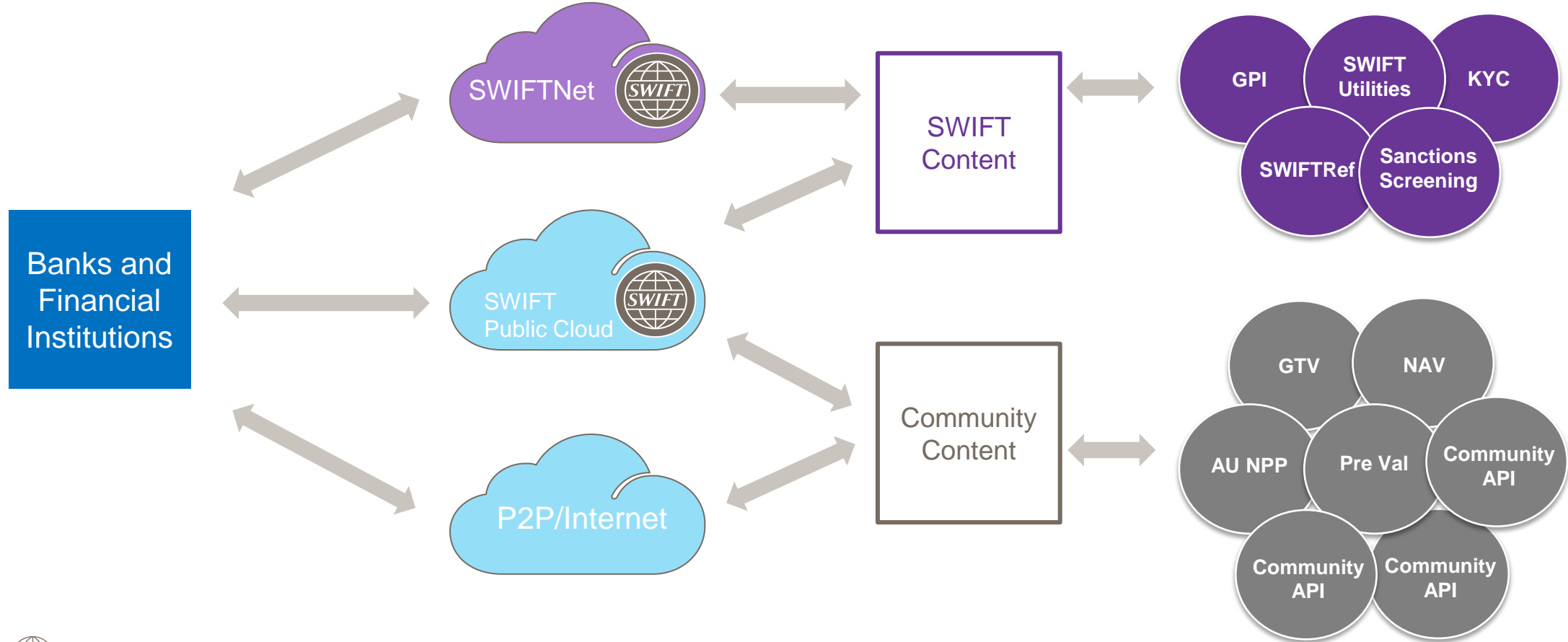
SWIFT enables API consumption via multiple channels, which may vary based on the use case



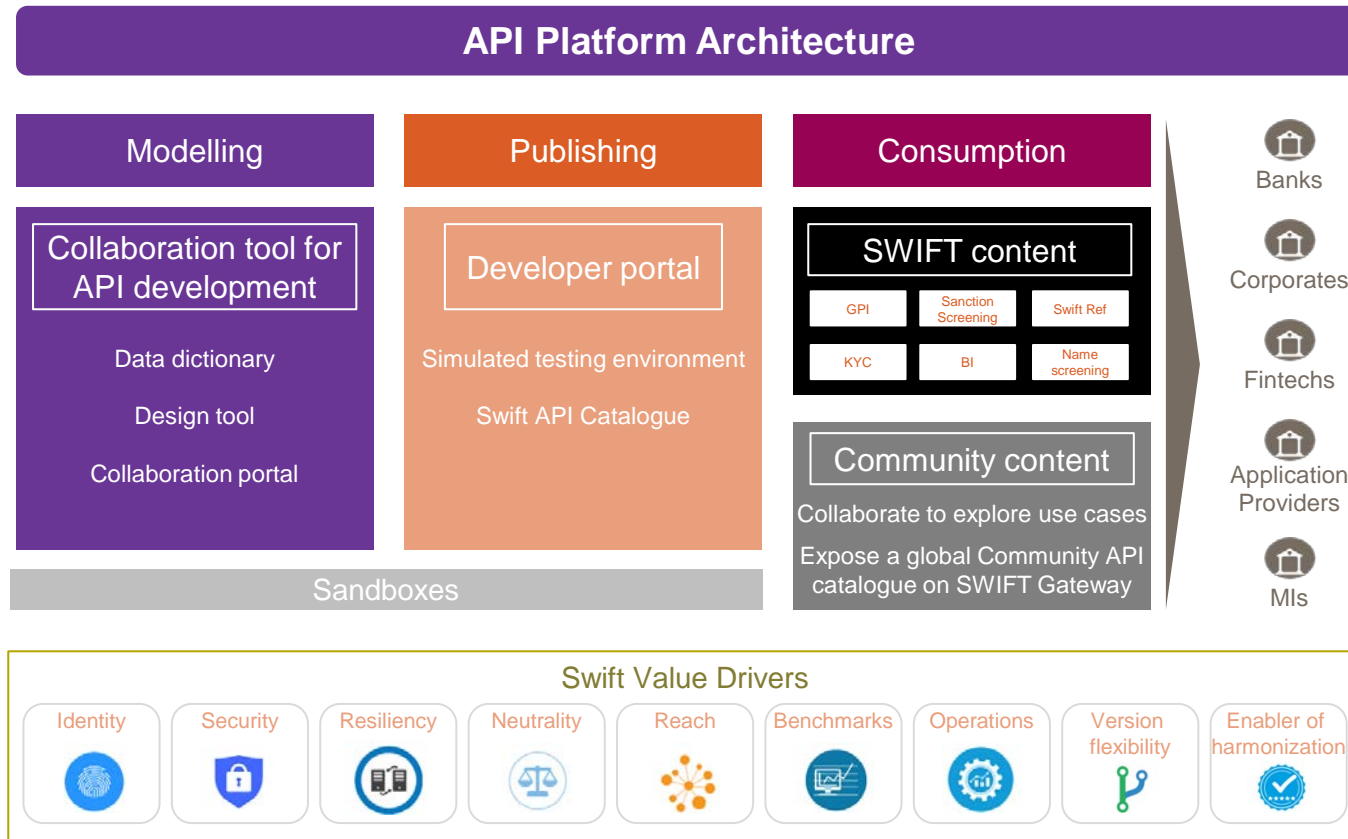
Illustrative Examples	SWIFT Content		Community Content			
	SWIFTNet	SWIFT Public Cloud	Internet	P2P	SWIFTNet	SWIFT Public Cloud
GPI (Get Transaction Details)						
SWIFTRef						
NAV (Net Asset Value)				And / Or	And / Or	And / Or
GTV (Global Treasury Viewer)				And / Or	And / Or	And / Or

Community Use case details in slide 14 onwards

SWIFT content can be consumed via SWIFTNet as well as SWIFT Public cloud via internet, with an additional option of P2P or Internet based consumption for Community content



SWIFT has grown a significant API capability rooted in our core strengths, and emphasizes our role as a “utility” for our Community



Key features of API offering

- Flexible approach to interoperability
- Security & Identity Management
- Reach
- Added-value through data

Current pipeline of SWIFT Value Added Services

1

Notification Service

To notifying customers and internal systems of various business events, leveraging a variety of delivery methods such as Email, SMS, WebHooks etc.

2

API RMA Services

A service that will provide security on top of API communications, blocking black or non-white listed entities.

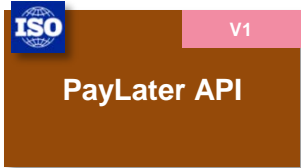
3

Business Intelligence Reports

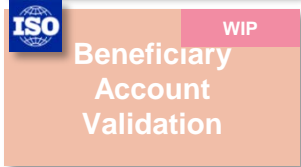
Trend insights and reports pertaining to API traffic including industry benchmarks, versioning report outlining which API versions are used and which are obsolete etc.

Update on use cases and Product roadmap

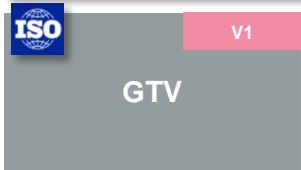
Updates on enablement of Community API use cases



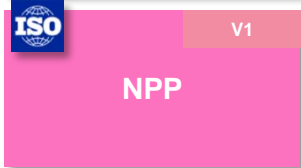
Version 1 complete, press release issued



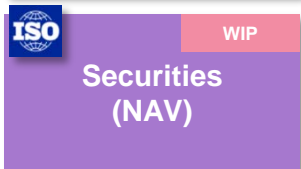
PILOT is scheduled with 15 clients for Q1 2019



Presented at SIBOS, lots of interest planning for a workshop

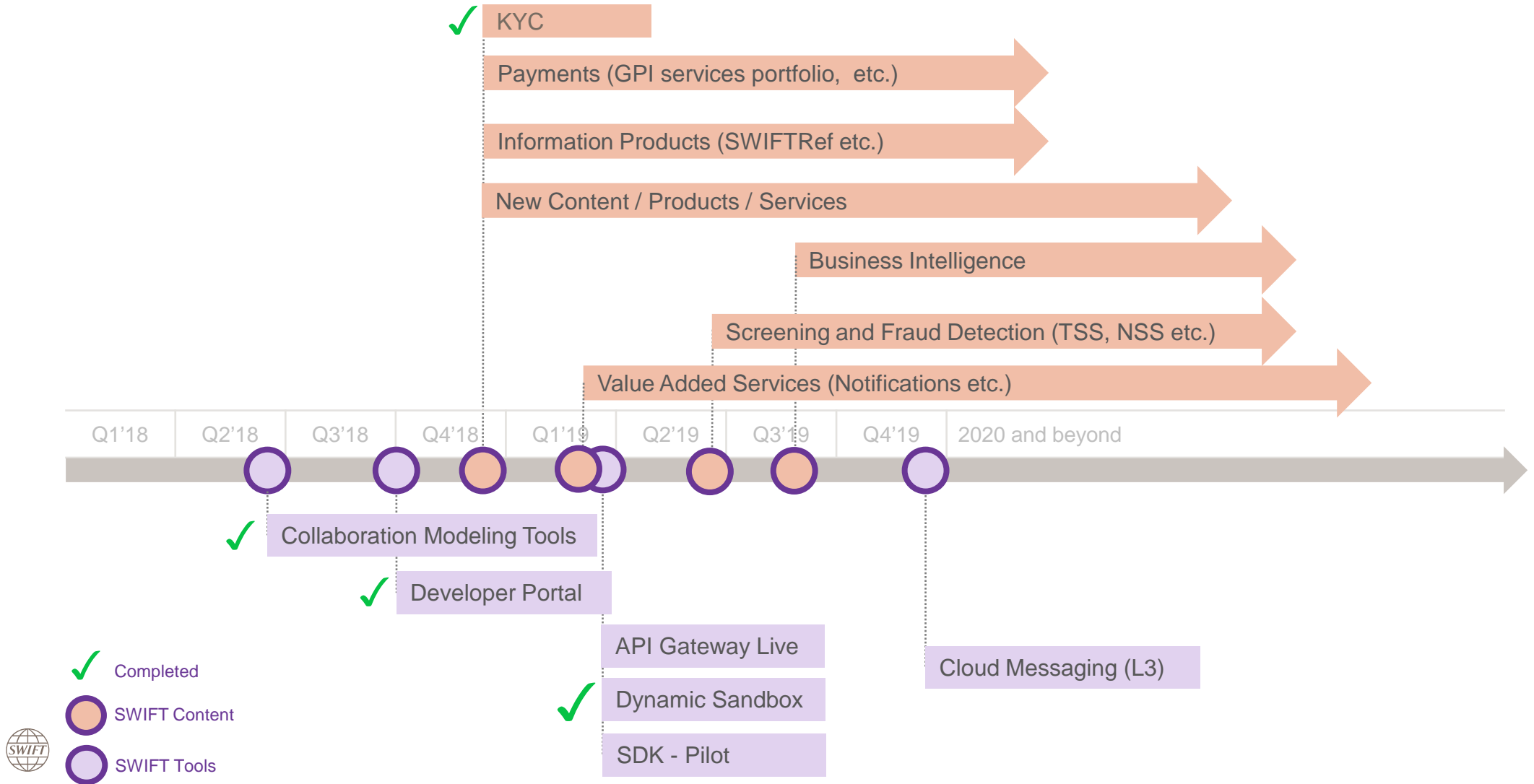


Sandboxes delivered for NPP for clients and Fintechs

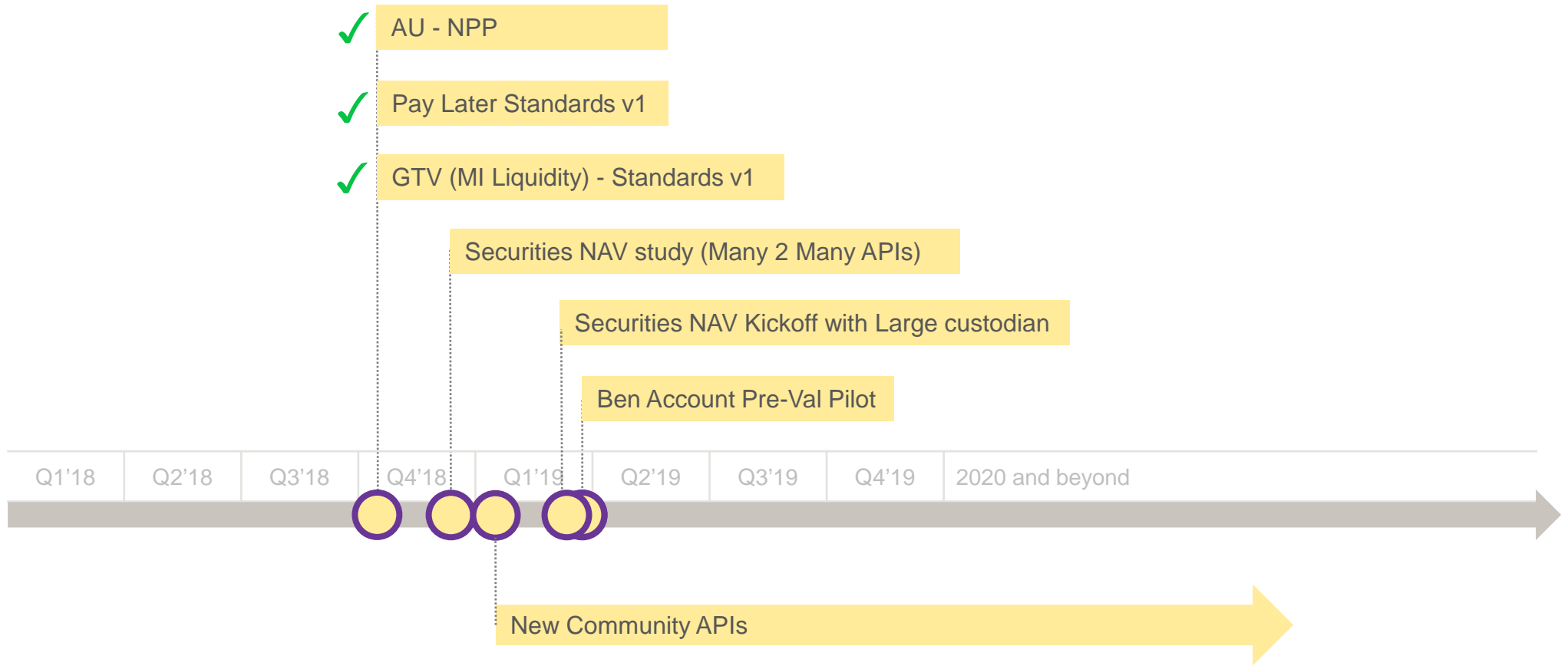


Workshop with large custodian, March 14th

SWIFT API tools and content publishing roadmap



Community API use case roadmap



- ✓ Completed
- Community Content



SDK Pilot overview



SDK Pilot Summary

What?

We are launching an SDK pilot in order to enable our customers to experience this solution first hand, and assess its viability and efficacy, vis a vis the connector.

Why?

To validate and assess the feasibility of using SDKs to simplify API consumption options going forward, aligned with OpenAPI principles.

How?

- Seek Community participation in the SDK pilot group, in order to help us test the feasibility and overall customer experience of the solution.
- Pilot feedback will help us evolve the solution to best fit the needs of the community, and if the pilot is deemed successful, the SDK based solution may well become the channel we use to expose all future SWIFT utilities.

SDK Pilot Phase 1: SDKs will be available on SWIFT Developer Portal on March 15th

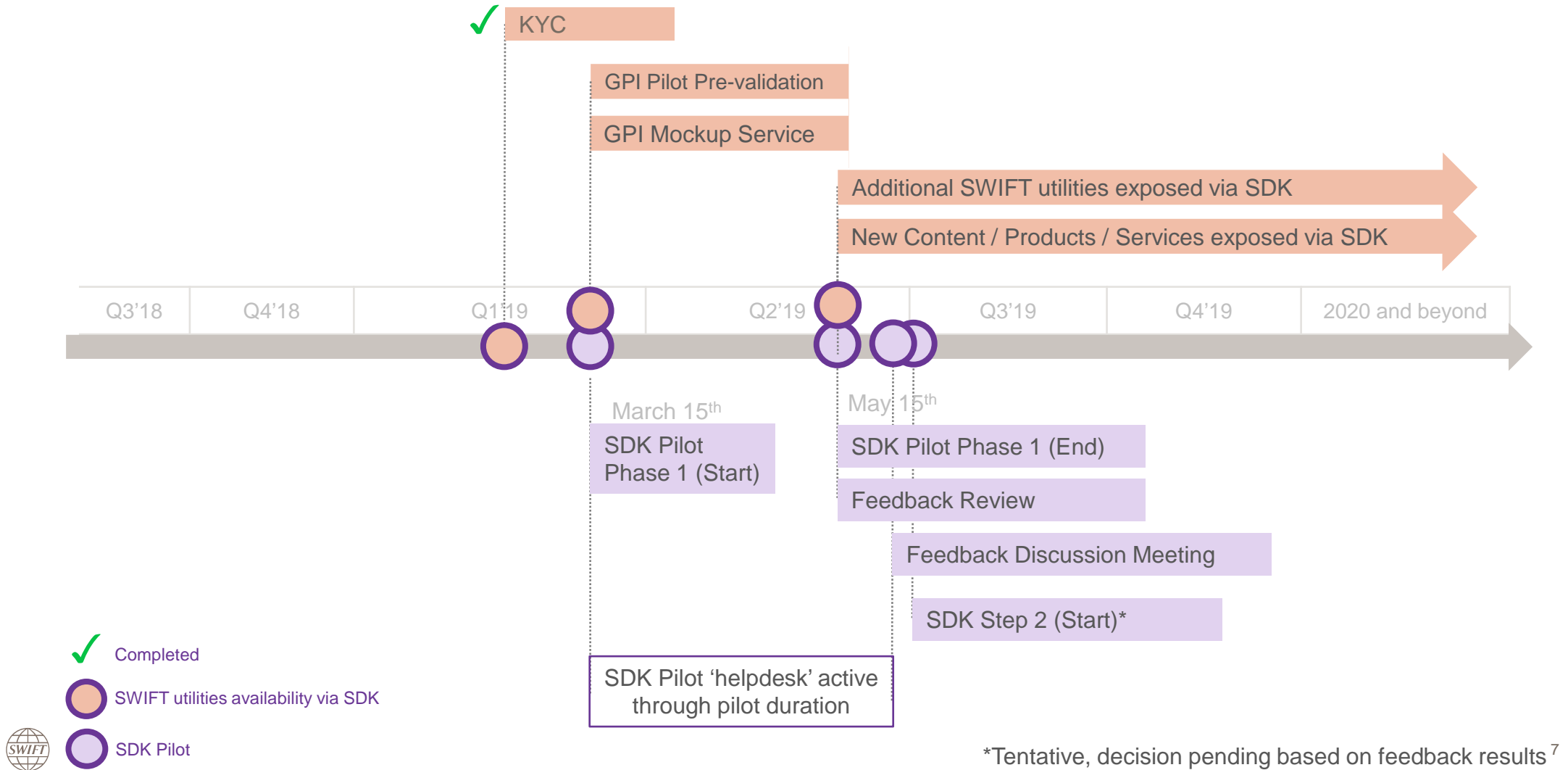
SDKs available on March 15 th	SWIFTNet	Internet
	Via Channel Certificates	Via User / Password
GPI Mock: Consume Tracker APIs using a simulation service	✓	
GPI Pre-validation: using the SDK solution as an alternative to the current connector based solution	✓	
KYC: using the SDK solution for a non-gpi service (Know Your Customer API)		✓
SWIFT Ref: SDK solution currently in use by some customers		✓

Customer process flow
<ol style="list-style-type: none">1. Download SDK from SWIFT Developer Portal2. Implement SDK in back office or Middleware3. SWIFT will provide documentation and a 'how to' video to implement the SDK4. SWIFT will provide a "helpdesk" service and a monitored mailbox (developer@swift.com)5. Run a few test API calls, based on their testing needs.6. Provide SWIFT with feedback along pre agreed criteria such as:<ol style="list-style-type: none">1. Ease of implementation2. Ease of use after implementation3. Any difficulties during implementation4. Complexity of maintenance5. Issues faced during pilot testing phase6. Comparison with GPI connector (if applicable)7. SWIFT will collect feedback and schedule a working session to discuss feedback8. SWIFT will Iterate and evolve approach based on feedback9. If feedback is positive, SWIFT will work towards productization10. If there is some negative feedback, SWIFT will analyze root cause and explore improvement areas, and adapt to customer requests11. SWIFT will explore potential subsequent pilot as productization is in progress.12. SWIFT will Continually engage with customers through the development lifecycle

Blue text indicates customer responsibility



SWIFT SDK Pilot timeline and key events

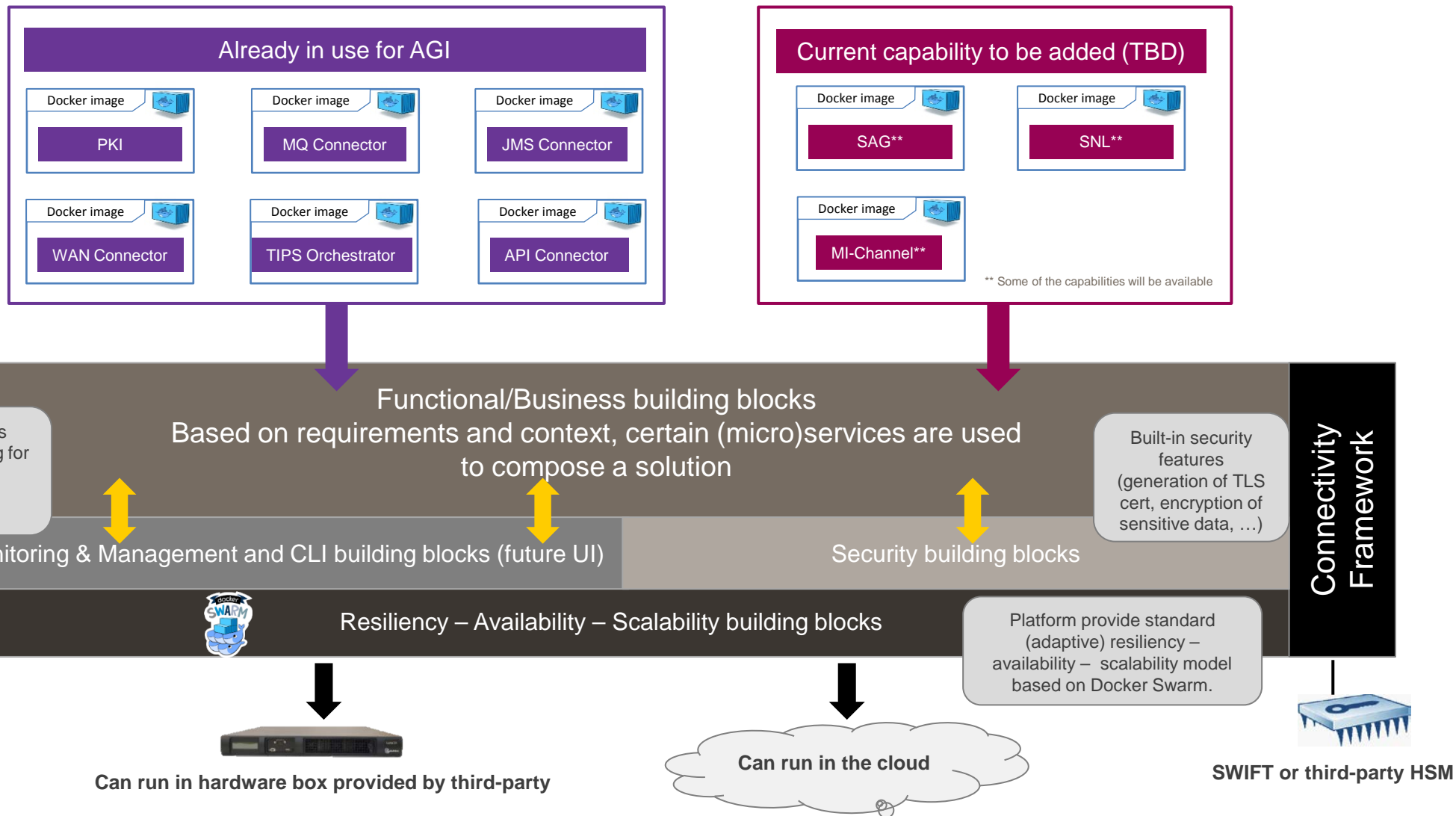


New Connectivity Framework (Concept)

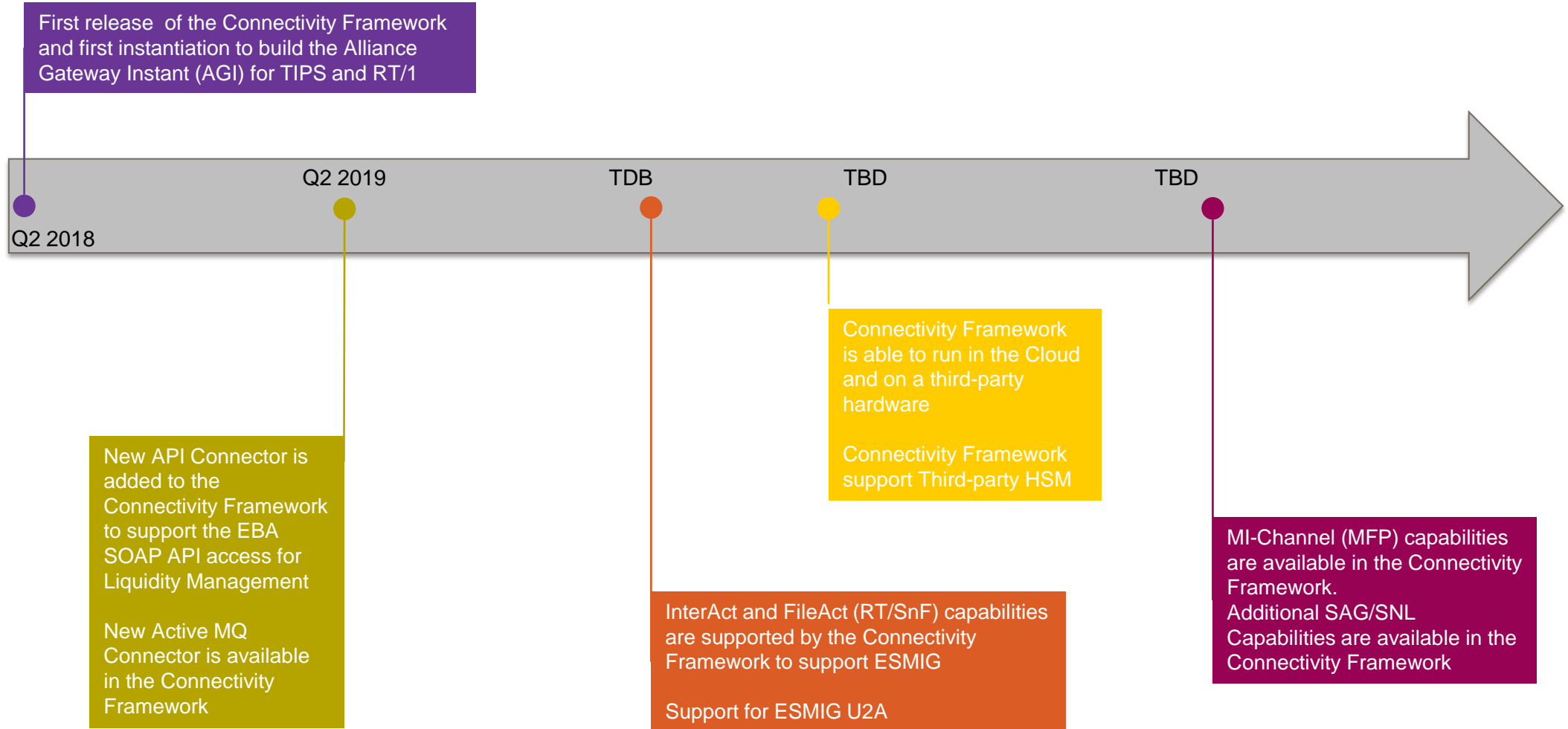
New Connectivity Framework - Concept

Objective	Simplify our connectivity & security portfolio, which currently includes Alliance Gateway, SWIFTNet Link, MI Channel, TDA, HSM and VPN.
Current State	Multiple software deployment based on different services leads to complexity for the customers, high maintenance and supportability costs
Proposed Solution	<p>Rebuild the concept of single window based on a Connectivity Framework:</p> <ul style="list-style-type: none">• Providing a modular way to handle the various business objectives in a secure way• Supporting Messaging and API capabilities• Running “in the flow” or as a “side-car”• Deployable in the Cloud and on third-party hardware• Offering a uniform way for the operational management• Based on state of the art technology
Desired Outcome	With this simplification and consolidation, we aim to provide a reliable, secure, and enhanced connectivity platform, with a transformed customer experience.

New Connectivity Framework based on the composition model pattern of AGI



Connectivity Framework - Roadmap

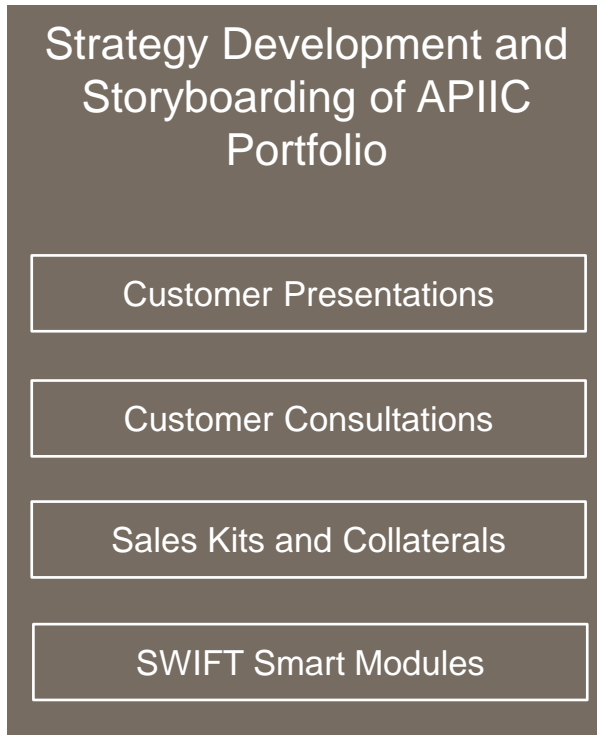


APIIC Community Engagement



Community Engagement & GTM: Strategic Framework

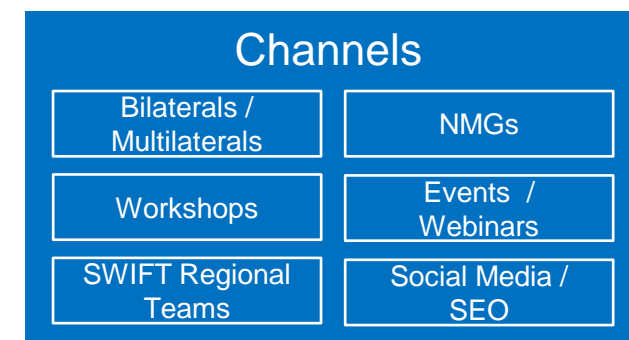
What is our Story?



Who do we want to tell it to?



How will we tell them?



In scope for this document

*SWIFT employees



APIIC Community Engagement Programs

Collaboration being the new innovation, SWIFT is planning a variety of programs to engage the Community, in order to iterate strategy based on community feedback and create a forum for open dialogue on key issues, with the ultimate goal of delivering tangible value to our Community via collaboration.

Regional APIIC Working Groups

A forum for technology leadership from our Community to discuss objectives, trends, pain points, new use case ideas and collaboration opportunities, with tangible benefits to the Community.

Webinar Series

An open forum focused on raising awareness of SWIFT technology strategy, vision and proof of concepts, as well as to discuss trends, pain points and collecting customer feedback, so that SWIFT can better cater to the community.

Workshops and Jam Sessions

A targeted forum focused on specific use cases where community members, fintechs and application providers could be engaged to collaborate on use case development and rapid prototyping

Collaboration and Thought Leadership

Forums to foster a collaborative initiatives within the community which may include use cases, thought leadership, events and partnerships



Appendix



Executive Summary

Context

SWIFT is currently undergoing an Agile transformation, and we have launched a Tribe focused on APIs, Identity and Connectivity. In the spirit of Agile, we are committed to developing customer centric products and have collected feedback from the community on our current GPI connector. Based on this feedback, we are exploring the use of SDKs in order to simplify connectivity options, and API access.

Proposed Actions

We are launching an SDK pilot in order to enable our customers to experience this solution first hand, and assess its viability and efficacy, vis a vis the connector. Depending on the feedback from the pilot participants, we will explore productization of the solution and evolve the current connectivity solution.

Pilot Objective

To validate and assess the feasibility of using SDKs to simplify API consumption options going forward, aligned with OpenAPI principles.

Ask of you

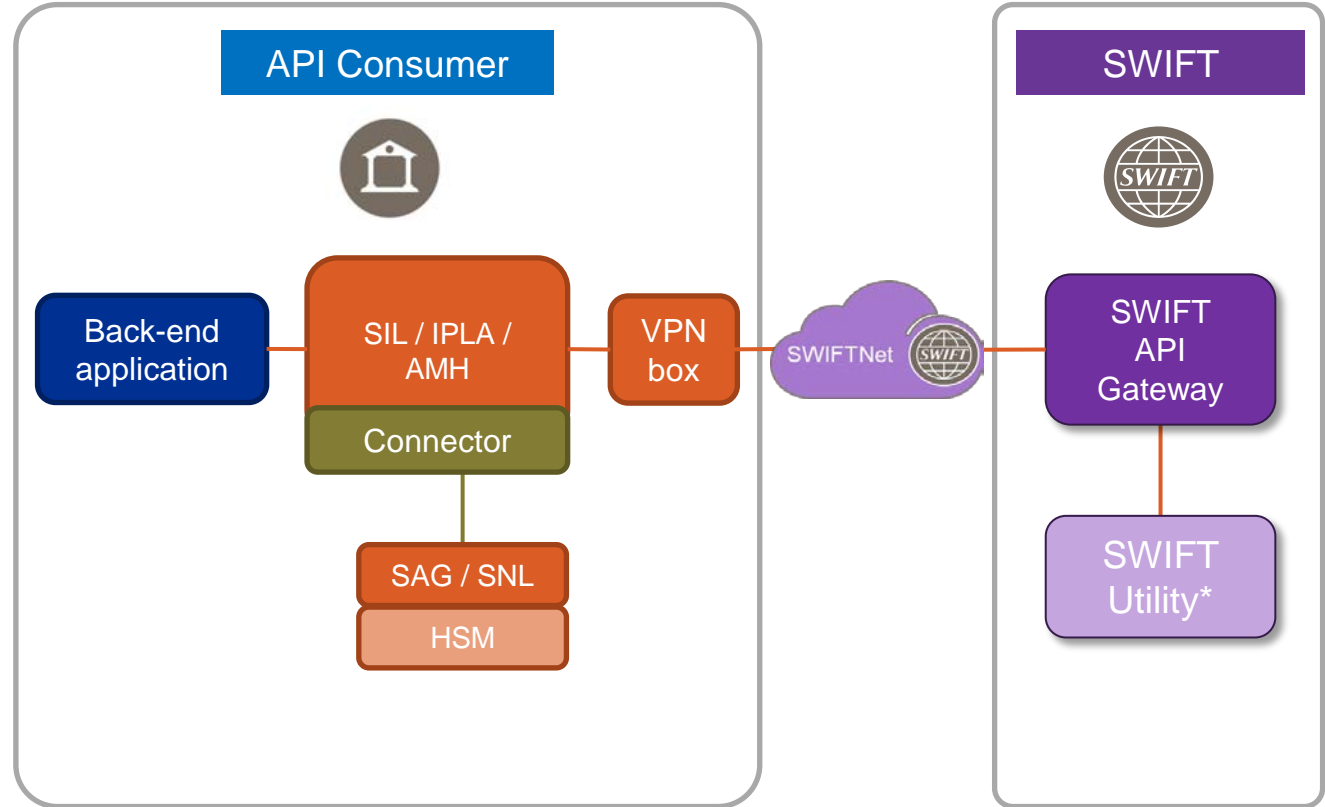
- We seek your participation in the SDK pilot group, in order to help us test the feasibility and overall customer experience of the solution
- Your feedback will help us evolve the solution to best fit the needs of the community.
- You will have early access to the SDK, and if the pilot is deemed successful, the SDK based solution may well become the channel we use to expose all future SWIFT utilities.



SWIFT API offering – Current Connectivity Option

Current Option

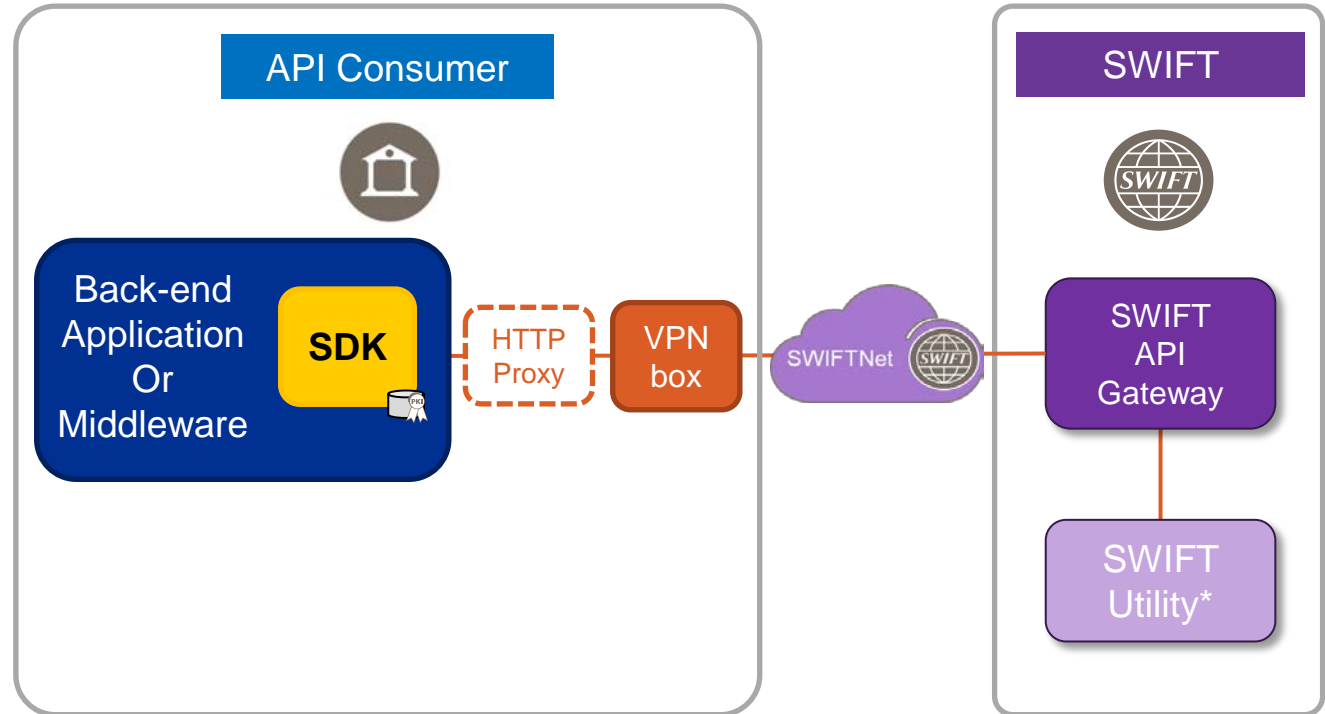
- Independent connectors for different services
- Connector depends on current offering SIL / IPLA / AMH
- Depends on proprietary security standards



SWIFT API offering – SDK based Connectivity Option (Consumer)

Proposed Option - SDK Pilot (Phase 1)

- No API Interface footprint required
- Composite SDK is provided to customer, and they are responsible for embedding it
- Security standards implemented avoid the need for LAU key and use JWT
- Use of channel certificate for the Pilot
- Ready to be published on the SWIFT developer portal on March 15th 2019



* SWIFT content and services that are, and will be exposed via API channel

Goal of the pilot is to validate and assess the feasibility of using SDKs to simplify API consumption options going forward, aligned with OpenAPI principles.

SDK Pilot Phase 1: Customer requirements and implementation steps

1. Customer must have Alliance Connect VPN
2. Customer must be subscribed to API test service
3. Download Channel Certificate
4. Generate API key for Business App and Request provisioning
5. Network provisioning:
 - a) Register IP address to connect to SWIFT Network
 - i. SLL (SWIFT Local Link), implement new IP address on the VPN network
 - ii. Reuse current IP address already provisioned, like SNL or SLL, using a proxy that will enable the BO to make the calls to the SWIFT Network
 - b) Configure customer internal firewall rules
 - c) Configure customer internal network translation in case needed
6. HTTP Proxy configuration if needed
7. Download SDK from Developer Portal
8. Integrate SDK Java code



Executive Summary

Context

With SWIFTs Agile transformation underway, the APIIC tribe was launched in January 2019, focusing on APIs, Connectivity and Identity portfolio. As we craft the strategies, roadmaps and aspirational goals, we are continually engaging with customers to seek feedback on our approach and ensure that we are catering to their needs. In order to structure our engagement approach globally, we have launched a squad within the APIIC tribe dedicated to customer engagement and go to market strategy. The mandate for this squad is to articulate the integrated APIIC story, and develop a framework to communicate this story, and create feedback loops to iterate our approach continually.

Proposed Actions

Work with regional leads and their teams to create regional engagement plans for the APIIC portfolio including:

1. A market segmentation of their respective region, to target key accounts by segment
2. Identify personas within the targets to engage, along with appropriate channels for engagement
3. Launch APIIC engagement programs (e.g.: working groups, webinars, NMGs etc.)
4. Internal (SWIFT) engagement to inform and upskill our workforce.

Provide quarterly updates to Regional leads on progress, and evolution of approach as relevant.

Benefits for the region

- Create a structured mechanism for market segmentation and community engagement, which can be leveraged by the region beyond APIIC related engagement.
- Enhance our market positioning and shift perception from “Legacy to innovate away from” to “Platform to innovative with”
- Equip our commercial teams with consistent, concise narratives around our APIIC portfolio, enabling more strategic conversations and building stronger relationships
- Create a mechanism for feedback loops, which will be brought back to the region (and the tribe).

Regional Stakeholders

TBD – Regional leadership and their teams



