Be part of
our open API revolution

Application Programming Interfaces (APIs) are the firepower behind today's online communications. Constantly connecting and exchanging data between applications and web servers to deliver information in real-time, on demand.

Thanks to open specifications and business standards for APIs, it's easy to develop new online services and respond to market needs quickly and cost-effectively. As a result, open APIs have fostered the development of a vibrant online platform economy.

The platform model has strong relevance to financial services, where multiple actors exchange information and engage in complex transaction flows. APIs can deliver real-time services that are increasingly in demand, transforming the customer experience through improved responsiveness, transparency and efficiency.

Over the next year and beyond, SWIFT is evolving its platform to enable instant and frictionless transactions from one account to another, anywhere in the world. This will unlock huge opportunities for our community of over 11,000 institutions. We will do this by transforming the SWIFT platform based on the concept of transaction management – providing a set of common transaction processing services, such as pre-validation of essential data, sanctions screening, fraud detection, data analytics, transaction tracking and exception case management.

APIs will play a crucial role in achieving our vision. Users that connect to our enhanced platform via our API channel will be able to benefit from more flexible and tailored business processes compared to traditional messaging channels. And, thanks to the power of the technology to exchange data between multiple parties in real-time, many of the innovative services available on SWIFT's enhanced platform will be API-native.

Connecting to SWIFT via our API channel also gives you access to a range of

innovative API-based services right now, with more than 20 APIs published and available for use on SWIFT's Developer Portal. Moving forward, the strategic importance of this channel will only increase, as we rapidly expand the range of products and services available via APIs.

The innovative APIs available on our platform are not only delivered by SWIFT. We are working alongside members of our community and trusted third parties to enable them to offer API-based financial services to our users – across payments, securities, trade, treasury and beyond.

This paper sets out why now is the time to connect to the SWIFT API channel and explains the practical steps to get the full benefits of the future SWIFT platform for your institution. Read on to discover the growing library of SWIFT APIs and how to road test them on our Developer Portal.

Be part on our open API revolution.

Start your API journey now!
Visit the Developer Portal or contact your SWIFT account manager to find out how you can connect to SWIFT via our API channel.

Transforming financial services with APIs

Be part of the SWIFT API community

1.0

Transforming financial services with APIs

1.1
What are APIs? And why are they so powerful?

An API is a set of software code and definitions that describe how two or more applications can interact and communicate with each other. Developers use APIs as a shortcut to quickly and efficiently integrate their applications with other software. Once implemented, applications exchange data with each other by making 'API calls', pushing and pulling information between themselves in real-time. Firms offer APIs to developers — who could be employees, customers or third parties — as a way of increasing the speed and efficiency of developing new applications that work with their software.

Let's take an example. When you're shopping on a retailer's website or app, you will use payment services, such as card or online payment providers, to make your purchases. To make that possible, the retailer needs to embed the functionality from each of the providers into their website or app. But doing this from scratch would be a challenge for any website developer and virtually impossible without the involvement of the providers. So the payment providers publically offer 'open APIs' that include all the code and definitions web developers need to embed their services – making it a straightforward, self-service process. Once implemented, each API facilitates the data exchange via API calls between all parties involved in the transaction (e.g. the retailer, service provider and customer's bank).

The use of APIs is ubiquitous across the web, providing developers with the building blocks they need to quickly and efficiently spin out innovative software-based products and services.

A few useful definitions

API: The code and definitions that developers need to integrate two or more applications together.

API call: The process by which an application requests and receives information in real-time.

ISO 20022: A framework used to standardise financial information according to an internationally agreed approach using business semantics, creating a common language. The flexibility of the ISO 20022 framework also enables it to be applied to standardising the data elements held with APIs.

ISO 20022 Business Model: A set of standardised business concepts used to define the data elements stored in ISO 20022-compliant messages and API calls.

SWIFT's API channel: A communications channel managed and secured by SWIFT that enables users to consume and expose data in real-time over SWIFT.

SWIFT's messaging channel: A communications channel managed and secured by SWIFT that enables users to send and receive messages over SWIFT.

Faster, smarter, better

APIs are highly suited to real-time processing
APIs have the power to exchange data across multiple applications held by multiple parties in real-time.

APIs enable flexible, granular services
that are easier to deploy, maintain, scale and change.

APIs are fast to market
APIs reduce development timeframes for new services from months to weeks. It's easy to add or remove services or functionality when required.

APIs deliver for data on demand
On demand access to data compared with traditionally having to wait for counterparties to push data.

APIs ensure lower costs of ownership
As a result, barriers to entry and the capital costs of providing services are reduced.

APIs have a light footprint
With APIs there are no heavy integration requirements. Freely available software development kits mean legacy skill sets are generally not needed.

1.2
APIs and the platform economy

APIs have been used by firms for decades to integrate different applications internally within companies, or offered externally to customers or partners to ease the on-boarding process.

But in the early 2000s, nascent tech platforms such as eBay and Salesforce took the use of APIs a step further. They realised they did not have the resources in-house to build all the applications they needed to meet all the needs of their users and scale their platforms at pace. So tech firms started to publish 'open APIs' freely on the web (alongside a range of other developer tools) providing all the code and definitions anyone needed to develop applications on their platforms. This effectively crowdsourced software development, giving private individuals and third-parties the tools they needed to offer app-based services to the users of the platforms.

Apple's iPhone and iOS App Store demonstrate the power of third-party development. When the iPhone was first launched back in 2007, the only applications available natively on the device were developed by Apple. The company soon opened up app development to third-parties by launching the iPhone software development kit (SDK), which included all the APIs, code and tools developers needed to build apps natively on the iPhone. The rest is history: Apple's App Store launched on 'iOS 2' in 2008 and now features more than 2 million apps.

Over the past 20 years, the agility delivered by open APIs and other third-party developer tools – alongside the availability of public cloud computing services – has fostered a platform economy that is creating value for participants across a range of industries. In this model, platform providers maintain a core infrastructure, marketplace access, security and governance. They offer open APIs, ready-made developer toolkits and test-beds so that third parties can quickly build products, services and apps, adding to the richness of the platform and drawing incremental traffic from end-users.

1.3
Tapping into the power of APIs in financial services

The API-driven platform model has strong relevance to financial services. In payments, an initial impetus for API adoption has come from regulators looking to increase competition in the banking sector, create a level playing field for new entrants and give account holders more control over their data. Today, API-driven open banking[1] is mandated in an increasing number of jurisdictions.

Beyond regulatory compliance, APIs offer financial institutions the opportunity to move away from the constraints of sequential and batch-driven processing to build dynamic, value-driven ecosystems that respond rapidly to their customers' demands for real-time, on demand services, matching their experience in other sectors.

Research and industry consultation shows that, as for payments, the securities industry - with all its complexities and multiple players - has much to gain from an orchestrated approach to deploying APIs and platform models.

Read our recent SWIFT Institute paper about how APIs and open banking is acting as a catalyst for industry transformation.

[1] The EU, the revised Payments Services Directive (PSD2) 2015/2366, The UK's Open Banking Standards, Australia's Open Banking/Consumer Data Right and other initiatives.

"APIs enable financial institutions to build dynamic, value-driven ecosystems that respond to customer requirements for real-time, on demand services."

1.4
Overcoming a key industry challenge: A fragmented API environment

While APIs have significant potential to transform financial services, challenges remain. Not least the need to overcome the fragmented implementation of APIs that has proliferated in recent years in our industry. When anyone can develop and publish their own API specifications and update them whenever they wish, fragmentation becomes inevitable, limiting their reach to a narrow groups of users.

For example, APIs may apply different identity and security frameworks bilaterally, making it difficult to bring multiple players into an ecosystem.

And, although industry-standard architectures (for example, SOAP and REST) and data formats (such as JSON and XML) make for rapid development and deployment of APIs, common business standards and market practices for describing and applying data are also needed; without them, misinterpretation or truncation of data can dramatically reduce the business value of the application.

These challenges are particularly pertinent to financial services, where identity, security and data integrity and interoperability are of overarching importance, and cross-border transactions are executed across multiple counterparties.

That's why SWIFT is investing and collaborating with our community and industry bodies to put in place the building blocks, including standards and governance, to make the vision of a collaborative platform for financial services attainable. The foundations are now laid to build a critical mass of participants and get the full value of APIs for our industry.
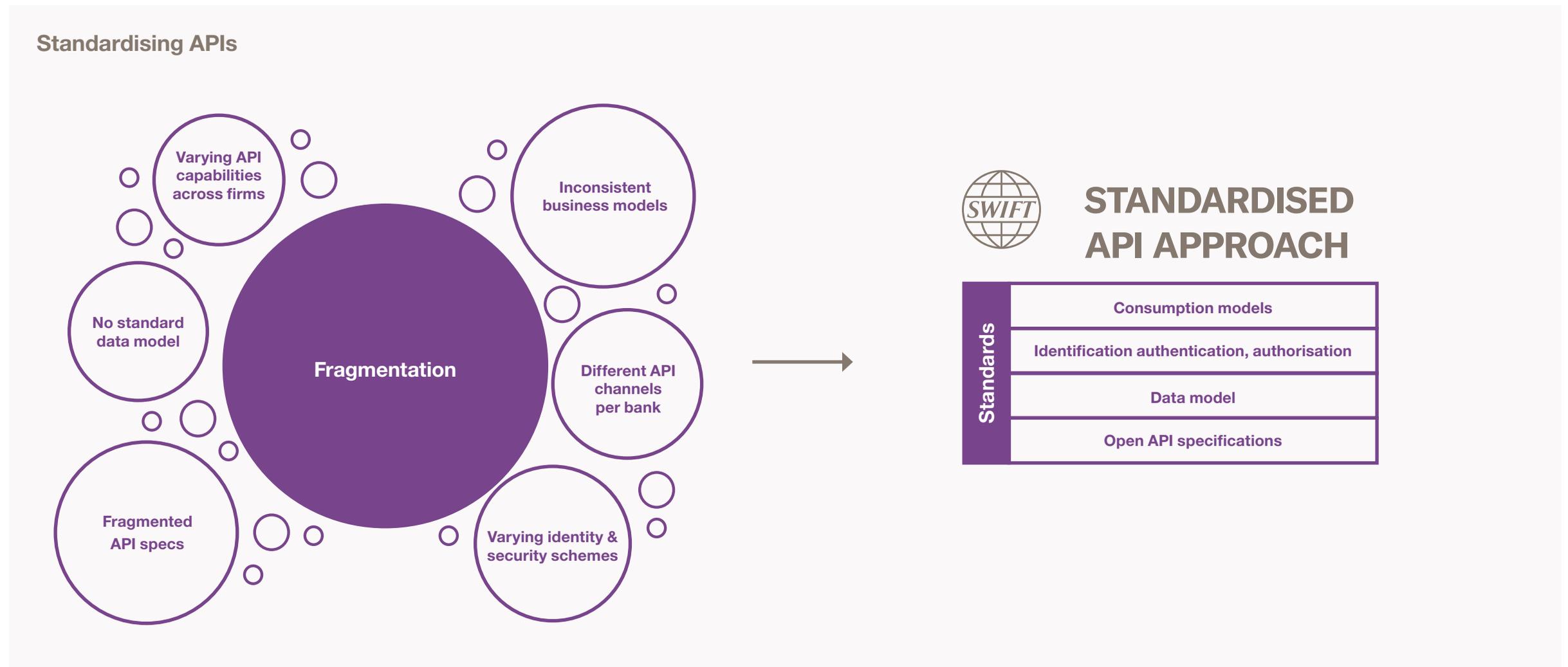
Innovation without fragmentation — business standards for APIs
We recognise the need for common business standards to ensure interoperability of APIs for financial transactions in the same way that we work with the financial community to support the adoption of common payments standards.

As the payments industry is moving towards adoption of ISO 20022 for cross-border payments by November 2025, many payments infrastructures are also adopting ISO 20022 for payments in their domestic markets (for example, in the Eurozone, UK and US from 2022/3).

In parallel, regulators are requiring financial institutions to offer their clients standardised APIs to ensure interoperability between products and services, facilitate choice for end-consumers and provide a truly open banking market.

Standardising APIs

- Varying API capabilities across firms
- Inconsistent business models
- No standard data model
- Fragmentation
- Different API channels per bank
- Fragmented API specs
- Varying identity & security schemes

SWIFT

STANDARDISED API APPROACH

Standards
- Consumption models
- Identification authentication, authorisation
- Data model
- Open API specifications

1.5
Harnessing the power of APIs for the SWIFT community

SWIFT has also been a leader in unlocking the power of APIs for our community. In 2018 we published the paper 'Delivering a global platform for the financial services API economy' and since then we have delivered on this promise. Since we launched our first API in 2017, adoption and usage of our API channel has grown significantly with more than two billion API calls made over SWIFT in 2020, up 120% year-on-year.

We now have more than 20 innovative APIs available for use our Developer Portal and the strategic importance of our API

channel will only increase moving forward, as we expand the range of products and services that can be accessed via APIs. Services are not only offered by SWIFT. We are working alongside community members and trusted third-party providers to enable them to offer services to SWIFT users via our API channel as well.

Via a single connection to SWIFT you will gain access to a wide – and growing – selection of services and capabilities to improve the experience for your end customers.
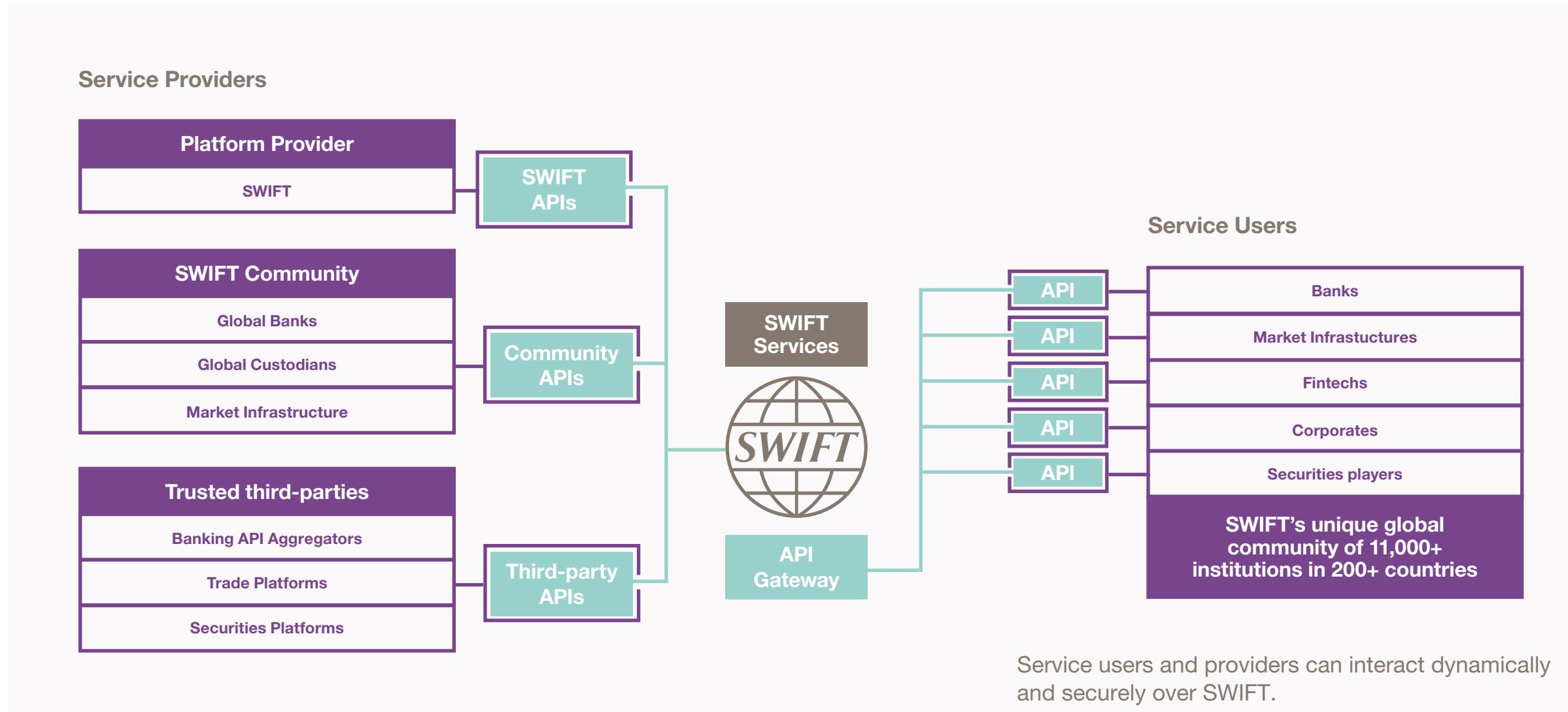
2 Billion

API calls made over SWIFT in 2020, up 120%

SWIFT:
A two-sided platform

"Our goal is to become a collaborative platform where innovative new ideas can thrive, and to help new products and services reach and benefit as many customers as possible."

Juan Martinez, Global Head of APIs, Identity and Platform Partners at SWIFT

Service Providers

Platform Provider
SWIFT

SWIFT Community
Global Banks
Global Custodians
Market Infrastructure

Trusted third-parties
Banking API Aggregators
Trade Platforms
Securities Platforms

SWIFT APIs

Community APIs

Third-party APIs

SWIFT Services

SWIFT

API Gateway

Service Users

API — Banks

API — Market Infrastuctures

API — Fintechs

API — Corporates

API — Securities players

SWIFT's unique global community of 11,000+ institutions in 200+ countries

Service users and providers can interact dynamically and securely over SWIFT.

1.6
APIs: At the heart of SWIFT's strategy

Over the next year and beyond, SWIFT will evolve its capabilities to enable frictionless and instant transactions from one account to another, anywhere in the world. This will unlock huge opportunities for our community of over 11,000 institutions.

We will do this by transforming the SWIFT platform based on the concept of transaction management. The platform will provide a set of common transaction processing services, such as pre-validation of essential data, sanctions screening, fraud detection, data analytics, transaction tracking and exception case management – mutualising capabilities that today are typically provided, and invested in, by each financial institution individually.

By bringing together data and common services, we aim to significantly improve end-to-end efficiency and reduce total

costs, while bringing new business value to end customers with faster, more reliable transactions and better, richer data.

Thanks to the power of APIs to exchange data between multiple parties in real-time, the technology will play a critical role in achieving our vision.

You will be able to connect to our enhanced platform via our API channel to initiate payments and unlock the full benefits of the richer data and advanced platform features..

APIs play a critical role in achieving our vision

2.0

Be part of the SWIFT API community

2.1
Start your API journey with SWIFT!

We've described the benefits of APIs and how they will facilitate future real-time, on demand information and transaction services over SWIFT. Now, how to get started? We have a ready-made toolkit to help you get on board.

The SWIFT Developer Portal provides you with all the information and tools you need to connect to SWIFT's API channel and accelerate your adoption of the innovative services available. All the tools and documentation you need are provided, completely accessible and free to use.

For business users, there are use cases showing you how the APIs can solve you and your customers' business problems. For developers, there are in-depth technical references, video tutorials and a freely accessible sandbox to test the APIs before you go live.

SWIFT Developer Portal

Access our Developer Portal to:

Discover

API Catalogue (SWIFT APIs + Community APIs)
Use Cases (Solutions, Benefits)

Learn

API Documentation (API specification, Release note)
Guides (API flow guides, HowTo guides)
Tutorials

Integrate

Manage App (Create, Edit, Delete Apps)
API Sandbox (Postman collections)
Developer Tools (SWIFT SDK, SWIFT Microgateway)

How to get started

1. **Find the right API** - For your business needs
2. **Discover more about the API** - References, SDK, videos and more
3. **Start testing in the Sandbox** - Register an account
4. **Go Live!** - Promote your app to live

Visit our Developer Portal   →

2.2
The APIs available on
SWIFT – a closer look

The services available on our API channel are not only delivered by SWIFT, but also by a range of players from across the ecosystem. Three types of APIs are available on SWIFT:

1. SWIFT APIs
2. Community APIs
3. Third-party APIs

2.3
SWIFT APIs –
Innovative services
offered by SWIFT

Benefit from the wide range of SWIFT services in real-time and on demand.
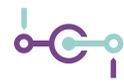
SWIFT gpi Tracker API

Available since 2017, the gpi Tracker API enables users to track the status of a payment in real-time by calling the gpi payments tracker.

By integrating the gpi Tracker API into their applications, banks can make calls to retrieve payment information and update payments.

SWIFT Payment Pre-validation API

SWIFT's Payment Pre-validation API enables banks and corporates to verify their payment instructions against SWIFT reference data (for example, BIC codes) prior to the payment instruction being sent. This speeds payments up and reduces rejects and costly repairs.

There's also an API that you can use to check data with the beneficiary bank (e.g., destination bank account details) before you initiate a payment. See the Community API section below.

Notifications API

For example, the Notification Service can be combined with SWIFT's Payment Pre-Validation service to allow users to trigger and receive notifications in relation to a payment's beneficiary's account validity and be notified whether or not it is possible to process the transaction in question.

gpi Instant API

The gpi Instant API allows banks to update the status of payment transactions that are forwarded via domestic instant payment market infrastructures to the creditor in real-time.

gpi Instant is an enhanced service that enables participating banks to send and receive cross-border payments end-to-end, in near real time, and beyond their regular hours of business.

gpi for Corporates APIs

The gpi for Corporates API enables corporates to integrate payments tracking into their treasury applications (TMS/ERP). This allows corporates to track their outgoing payments and be notified about incoming payments across multiple banks.

Data & compliance APIs

You can get real-time, on demand access to a wide range of SWIFT services a via our API channel - from business intelligence to compliance and reference data solutions.

The SWIFTRef API, for example, gives you dynamic access to our payments reference data. Other APIs include: SWIFT's Banking Analytics API; Observer Analytics API; Compliance Analytics API; Transaction Screening API; KYC Registry API; and many more.

Discover our APIs here   →

**2.4
Community APIs -
Innovative services
offered by SWIFT
members**

Following the two-sided platform model, SWIFT members can offer API services to other users over SWIFT. Users can work alongside our expert team to design, develop and expose standardised APIs on our platform with the highest operational and security standards.

The Community API model enables you to offer services to your business partners and customers over SWIFT. We provide the central infrastructure such as identify management, authentication, security, network connectivity – while you focus on providing value-added services.

We are already working with a cross-section of our members to develop APIs that will benefit the community as a whole.

Community API use cases

Pre-validation API – beneficiary banks
Now live, institutions can use this API to verify the data in their payment instructions with beneficiary banks prior to sending.

MI-to-Participant APIs
Market infrastructures can leverage SWIFT's API channel to exchange data in real-time with their participants that are already connected to SWIFT.

Corporate-to-Bank - Account Balance API
Currently in development, this API gives corporate treasurers real-time, on demand access to accurate current and forward account balance information across multiple banks.

Real-time access to securities positions or NAVs via APIs
Currently in development, this API gives real-time access to securities holdings across different custodians, or to NAV information from fund accountants - a service that is in high demand by asset managers and brokers that need to take fast investment decisions.

Custody account management
In development, this API will deliver an interactive and standardised communication with account servicers (custodians, depositaries) in order to reduce the cost and risk in this simple but essential part of the securities business.

Offer services to your business partners and customers over SWIFT

Why expose your APIs over SWIFT?

— Expose standardised API services to multiple business partners connected to SWIFT
— Offer your services to our unique global community of banks, market infrastructures, corporates, securities players and beyond
— Focus on delivering business value – SWIFT handles security, identity management, infrastructure, connectivity and much more.

— SWIFT delivers the expertise, skills and tools needed to manage the data flows between you and your business partners
— Rely on SWIFT as your neutral, secure and trusted platform provider

2.5
Third-party APIs – Innovative services offered by trusted partners

The platform economy succeeds when users are able to reach additional services relevant to their business flows without having to leave the platform.

At SWIFT, we partner with a range of technology providers and fintechs to bring relevant, robust services on-board to enrich our platform. We aim to grow the broad ecosystem of innovative third-party services for the benefit of our community.

For example, trade finance relies heavily on the exchange of documentation to release the goods or the payment. What if you could immediately validate invoices to mitigate against fraud? Or work seamlessly between the SWIFT platform and your accounts payable system using APIs?

We are already working with a range of organisations as part of our Platform Partner Programme. For example, Bottomline Technologies – a leading

financial technology provider – has partnered with us to enable its customers to benefit from the range of innovative API-based services available on SWIFT. In the first instance, Bottomline is leveraging the SWIFT gpi Tracker API to give its clients full visibility on the status of their cross-border payments throughout the entire transaction lifecycle

"Today's digital economy is an API economy. Long term strategic partnerships like Bottomline and SWIFT brings to the market real value for customers through our API work together where real-time, low touch services can be made available globally."
Ed Adshead-Grant, GM & Director, Payments, Bottomline

Why partner with SWIFT?

1   SWIFT is a global, member-owned cooperative and the world's leading provider of secure financial messaging services.

2   Our network connects more than 11,000 banking and securities organisations, market infrastructures and corporate customers in more than 200 countries and territories and is protected by a full identity repository and security framework.

3   We bring the financial community together at global, regional and local levels to shape market practice and define standards and rule books.

4   SWIFT Standards works with the global financial community to maintain important message standards, including ISO 15022 and ISO 20022. Crucially, we work with the user community to specify and publish market practice rules and best-practice advice on how standards should be deployed to meet particular business needs or comply with regulation. As a reliable, neutral infrastructure provider we help the industry innovate and deploy new solutions and future technologies.

5   SWIFT also has a track-record in collaboration - working with third-party providers who can add value to core services.

"Today's digital economy is an API economy"

Ed Adshead-Grant
GM & Director, Payments, Bottomline

**2.6
Connecting to our
API channel — your
options**

We have developed a new generation of API connectivity options for customers to connect to our API channel: the SWIFT Microgateway and SWIFT Software Development Kit (SDK). Both solutions offer users flexible and cost-effective access to all current and future API services available on SWIFT – whether they are delivered by SWIFT, the community or trusted third-parties.

The SDK contains all the tools customer developer teams need to embed API connectivity into Java-based applications. The Microgateway, in contrast, is a fully-fledged software solution for customers to concentrate their API flows from multiple applications based in any programming language, architecture, or server topology.

In line with market trends, the SWIFT Microgateway and SDK can be licensed free of charge by our customers.

Next-gen connectivity options

SWIFT Software Development Kit (SDK)

SWIFT Software Development Kit (SDK) has everything developers need to quickly connect to our API Gateway and start using the APIs available.

The SDK delivers APIs that hide much of the lower-level application plumbing, including authentication, authorisation, signing and error handling. It also contains a number of value-added services, such as end-to-end testing scenarios, API samples; API payload validation based on ISO 20022 and ready-to-use API use-cases.

SDK is zero-footprint. As such, it requires no new hardware on your premises and re-uses your existing SWIFT security and connectivity footprint.

Download the SDK   ↓

SWIFT Microgateway

The SWIFT Microgateway only needs to be set up once; as soon as that's done, you can begin selecting the services you want. With this simple software product, you can configure, manage and monitor all the API calls you make over SWIFT.

It also saves you time and money. You'll no longer have to complete an integration project and engage consulting services every time you want to benefit from a new API-based service on SWIFT.

The Microgateway is also fully backwards compatible with our earlier SWIFT gpi Connector offer: Institutions can migrate directly from the gpi Connector to the Microgateway and start benefiting from the full range of API-based services available on SWIFT.

Download the Microgateway   ↓

About SWIFT

SWIFT is a global member owned cooperative and the world's leading provider of secure financial messaging services. We provide our community with a platform for messaging and standards for communicating, and we offer products and services to facilitate access and integration, identification, analysis and regulatory compliance.

Our messaging platform, products and services connect more than 11,000 banking and securities organisations, market infrastructures and corporate customers in more than 200 countries and territories. While SWIFT does not hold funds or manage accounts on behalf of customers, we enable our global community of users to communicate securely, exchanging standardised financial messages in a reliable way, thereby supporting global and local financial flows, as well as trade and commerce all around the world.

As their trusted provider, we relentlessly pursue operational excellence; we support our community in addressing cyber threats; and we continually seek ways to lower costs, reduce risks and eliminate operational inefficiencies. Our products and services support our community's access and integration, business intelligence, reference data and financial crime compliance needs. SWIFT also brings the financial community together — at global, regional and local levels — to shape market practice, define standards and debate issues of mutual interest or concern.

Headquartered in Belgium, SWIFT's international governance and oversight reinforces the neutral, global character of its cooperative structure. SWIFT's global office network ensures an active presence in all the major financial centres.

For more information, visit
Web: www.swift.com
Twitter: @swiftcommunity
LinkedIn: SWIFT