

WHITEPAPER



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creating value through innovation



Transformation to Open Banking -An Adaptive Solution



Open Banking and PSD2 Outlook

In the evolving Open Banking ecosystem, financial services providers and banks must adapt to an innovative technology that is driven by APIs to best fit the Regulatory Technical Standards (RTS). Open Banking relies extensively on the use of Application Programming Interfaces (API) to securely share customer data among banks, as well as allow third-party developers to access the bank's technology environment to build innovative applications and services. The Open Banking APIs sways the market players worldwide and Open Banking has reinforced strategic opportunities for banks and new entrants of the emerging business ecosystem.

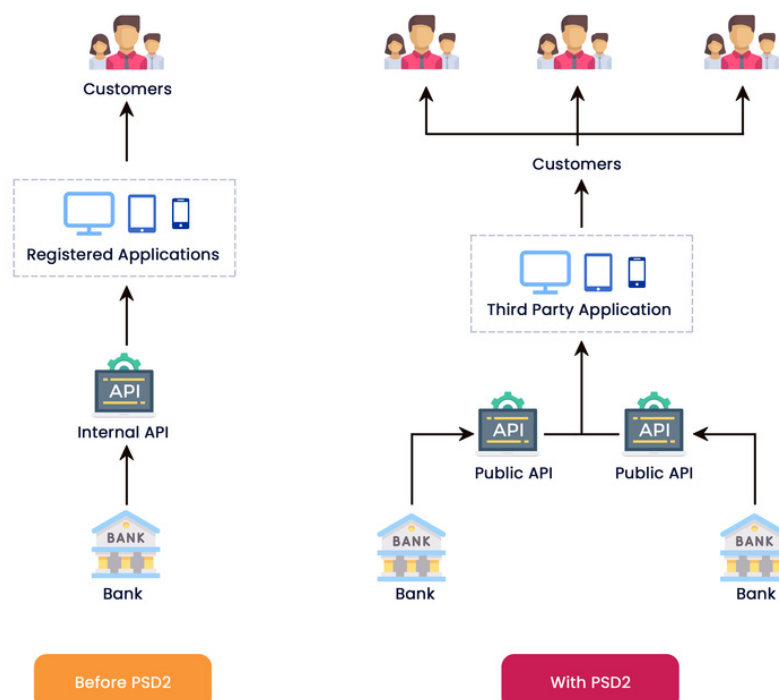
As the term suggests, Open Banking believes in democratising access to banking data and making it available in real-time to customers so that they can manage their finances better. Open Banking aims at bringing in revolutionary changes in the way we access our bank accounts to efficiently handle our finances. Open banking APIs have the potential to stimulate an increased competition within the financial services market by bringing in more innovation to the quality of the products and services delivered to the customer.

"Open API is more than a technology or a new way to meet compliance obligations; it represents a new way of doing business that must be embraced with open arms and put to work".

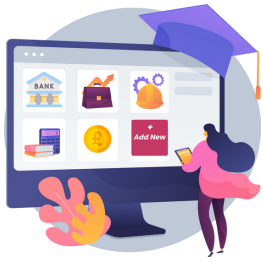
PSD2 is an Open Banking initiative that marks a significant shift in the banking sector. The transformation for open banking and enhancement in Application Programming Interfaces (APIs) goes hand in hand to share information between customers and banks while third-party providers (TPPs) build their application to consume the data or APIs opened by the financial institutions. Thus, Open Banking (PSD2) enables the TPPs to develop new financial services through open APIs to view, access and initiate payments through customer's bank account(s) in a single integrated application/platform.

Let's digitise our thoughts with the value-added perks of getting transformed into open banking by overcoming the most predominant challenges with an adaptive solution, Macro Global's Tavas – Open Banking Product Suite empowering banks (ASPSP) to transform and achieve the Open Banking innovation.

Stepping into Open Banking



Add new Products/Services by adopting Open Banking



The Open APIs perform a vital role in the Open Banking ecosystem as they act as an interface between the banks, third-party providers (TPPs) and payment service users (PSUs). The recent EBA report strongly declares that the banks can extend and enhance their existing product/service alliance by adopting the APIs which brings more innovation into their business operation. Banks should partner with emerging innovative fintech firms to offer a unique value proposition for their customers and address their actual financial needs. Banks can seamlessly integrate with other counterparties prevailing in the market space by exposing their open APIs in order to extend their services.

Enrich the customer experience with Open Banking APIs

Every bank has its own predominant distribution channels (mobile application and internet banking website) through which the banking customers are managing their banking services. Open Banking APIs upgrades/transforms the bank's performance and operation by enabling them to address the needs and demands of the existing customers and prospects. As the new entrants keep on hitting the financial services industry and as the market is becoming more competitive, the banks should continuously engage to identify the customer needs and meet their expectations with enhanced customer experience. Bridging the innovations into business retains the existing customers and seduce prospective customers who are constantly in search of a better alternative.



Visualise a Surge in Revenue with the Open Banking APIs



Open Banking has increased the competition within the industry by mandating the banks to expose open APIs for the Account Information Service Providers (AISPs) and Payment Initiation Service Providers (PISPs) and Card Issuing Service Providers (CISPs) to access the customer's bank accounts in a more efficient and secured manner. So, it is evident that the banks adopting Open Banking thrive to survive in the fierce of competition by withstanding the market fluctuations. And, adding complementary services to the existing alliance by implementing the Open Banking strategies enables the banks to visualise a surge in their revenue.

Challenges in Transformation to Open Banking

Regulatory Complexity

"Opening core banking functions via API will be a challenge and a risk for banks under PSD2 (Open Banking)".

The bottlenecks for banks to comply with the Open Banking standards are the complexity of requirements owing to the competing environments of the third parties, particularly in the context of potential deployment of APIs, identity, and security. The banks find it difficult to execute fully functional APIs according to the regulatory compliance program and on the other hand, the regulatory and technical standards have made it difficult to distinguish between legally required resources demanding a high-quality service within the mandated deadline.

Infrastructure Complexity

The biggest challenges in exposing APIs are inclined with the right infrastructure to handle the APIs as mandated and requires multiple API gateway servers, identity servers, and data centres which involves a huge cost when procured. Banks preparing to comply with the new mandate need to make multiple investments beyond authentication technologies, such as malware detection and secure communication via encryption which requires a deep understanding of technical and security components and infrastructure to design the solution for the requirements.

Technology Shifts

Banks and payment service providers lack the necessary technologies to comply with the authentication requirements. The banks are not geared up to provide a platform for transaction risk analysis and leveraging data signals and new technologies. Open Banking challenges include the need for proper standardisation of APIs (beyond pure technical dimensions) and collective customer education on new possibilities and secure behaviour when controlling finance information. Banks face a considerable challenge to leverage the benefits of the technically advanced RESTful APIs over the traditional APIs as the REST APIs are more secure and consumes considerably less bandwidth when used for the transmission of data between the endpoints.

Exposing Services and API in a secured manner

As the volume of financial transactions in remote channels increase, so does the risk of fraud. In two years, Internet transactions have increased more than 200%, and at that same time, fraud increased 173% in just the mobile channel.

Security remains to be the most important concern for the banks when exposing their APIs to third-party providers (TPPs). As data breaches are growing and lack of APIs exposure or integration leads to breaches of sensitive customer data which in turn directly affects the bank's reputation. While exposing APIs, the 'man-in-the-middle' attacks are more prone to occur when sensitive data is shared between the endpoints. Without the rate-limiting mechanism, the maximum number of request APIs enter the bank's CBS database which leads to high authorised loads. Irrespective of the number of open APIs exposed by a bank, the main challenge of the bank is to establish more stringent API security policies to manage the APIs efficiently over time.

Macro Global's Tavas – Open Banking Product Suite – An Adaptive Solution

Macro Global with its years of subject matter expertise in regulatory services enables the banks to seamlessly achieve compliance with Open Banking regulations by adhering to the Regulatory Technical Standards (RTS). Macro Global's Tavas – Open Banking Product Suite, a cloud-based Software as a Service (SaaS) solution empowers banks (ASPSP) to be both open and secure when engaging with third-party providers (TPPs) requesting access to customer accounts/data to initiate payments. Macro Global has been accredited as a Technical Services Provider (TSP) by OBIE(UK) and has proven to provide the best-in-class technical assistance to the ASPSPs in their journey of transformation to Open Banking. The APIs developed by Macro Global is financial-grade APIs (FAPI) compliant and the data transfer between the endpoints through APIs are fully encrypted and secured by mutual TLS (mTLS) authentication. A dedicated Identity server that adheres to OAuth 2.0 and OpenID Connect (OIDC) Protocol for authentication and authorisation of TPP beforehand in granting access to the APIs.

Macro Global's Tavas Open Banking platform serves as an intermediary channel for communication between TPPs and financial institutions (ASPSPs) to support and effectively handle the subjected Open Banking services, Account Information Services (AIS), Payment Initiation Services (PIS) and Confirmation of Funds Services (COF). Macro Global's security services protect the regulatory data and effectively handle the API integration which facilitates the ASPSP's to seamlessly integrate with the authorised and regulated TPPs.

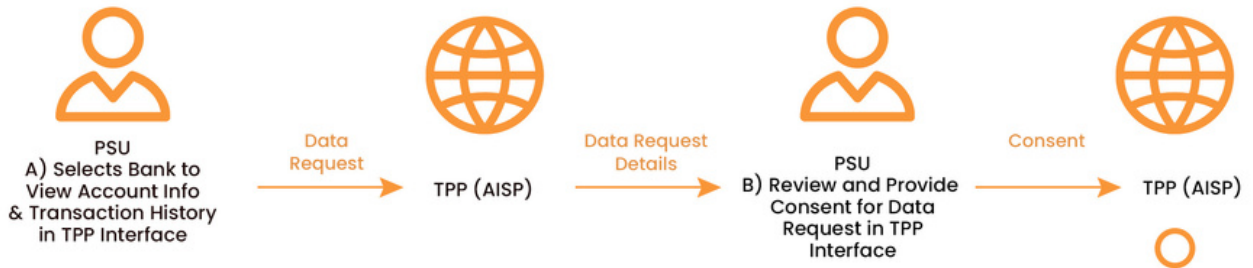
Account Information Services (AIS)

The Account Information Service provides consolidated information for payment service users to manage the account services held with the bank (ASPSP) and the data is further enriched for a better financial analysis. Account Information API enables the aggregation of customer data to offer a holistic view of the end customer's financial state.

The customer (payment service user) signs the TPP application and requests to obtain account information over the bank account by selecting the bank provided in the TPP interface. The customer (PSU) will be redirected to the bank's Internet Bank Website/Mobile App to select the desired account. Macro Global's Tavas supports multiple security implementation options with end-to-end encryption, secure digital trust, and explicit customer consent. Our security solution is developed based on the guidelines from the European Banking Authority's Regulatory Technical Standards for Strong Customer Authentication and secure communication. Macro Global's consent management enables banks (ASPSP) to achieve regulatory compliance by offering choices and control over customer data usage. With Macro Global's consent management, banks can request and capture customer (PSU) consent to use their data by complying with Open Banking(PSD2) regulations. Macro Global creates and converts the PSU consent into actionable insights enabling an enhanced and trusted relationship between the customer and the TPPs thereby giving customers secured rights over their personal data. The PSU authenticates with their bank (ASPSP) and the account information is instantly retrieved. In the background using the Account Information API, Macro Global sends the account details for PSU to view the requested details in the TPP interface.

ACCOUNT INFORMATION SERVICE

REQUEST & CONSENT



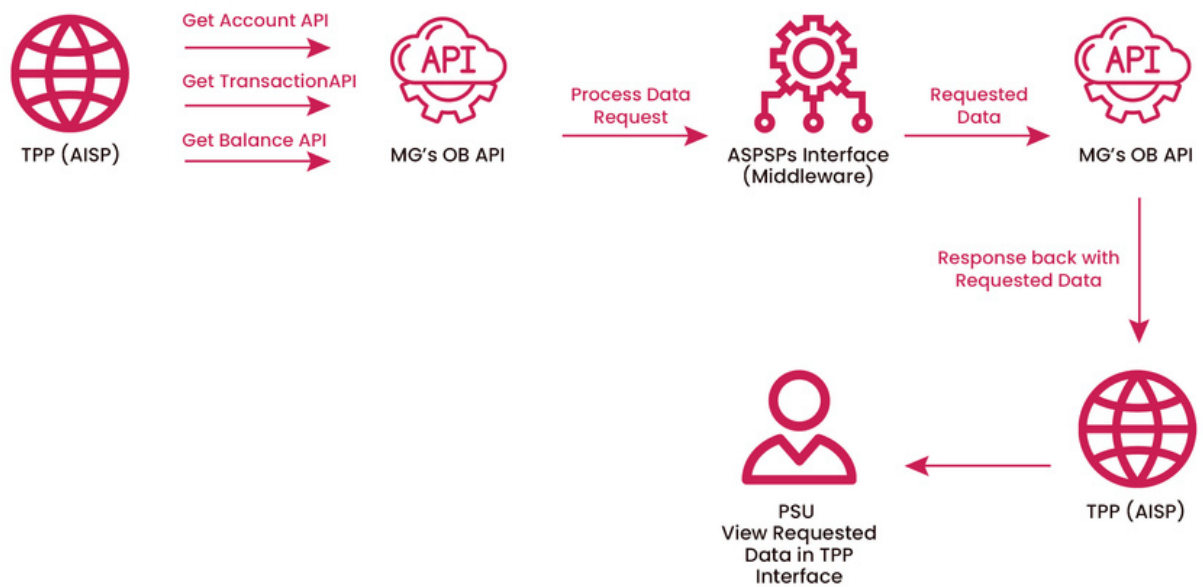
Redirect to ASPSPs Online Environment

AUTHENTICATE & AUTHORISE



Security Token

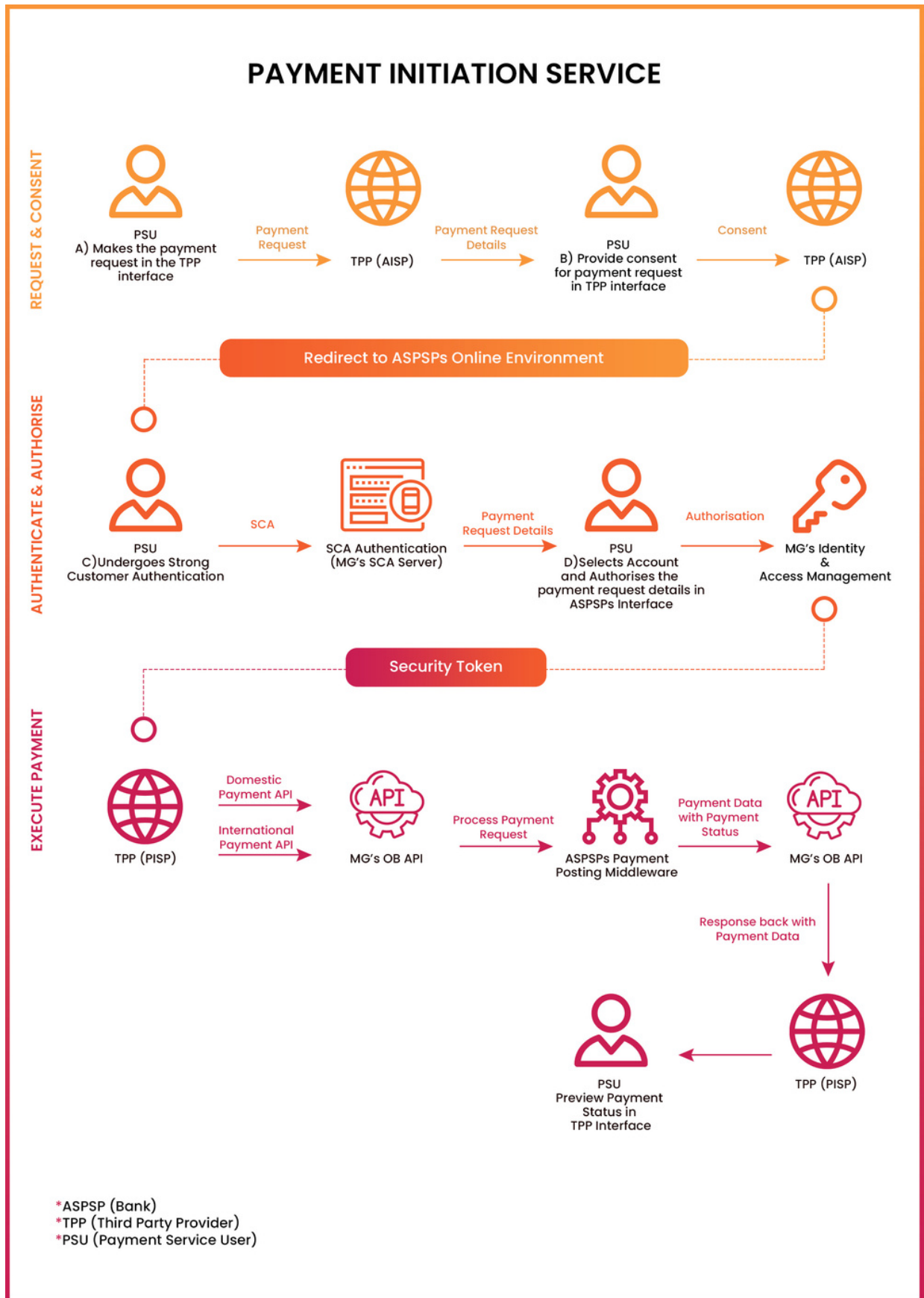
GET INFORMATION



- *ASPSP (Bank)
- *TPP (Third Party Provider)
- *PSU (Payment Service User)

Payment Initiation Services (PIS)

The Payment Initiation Service initiates payment requests with the consent of the PSU from their payment account(s) held in the bank(s).



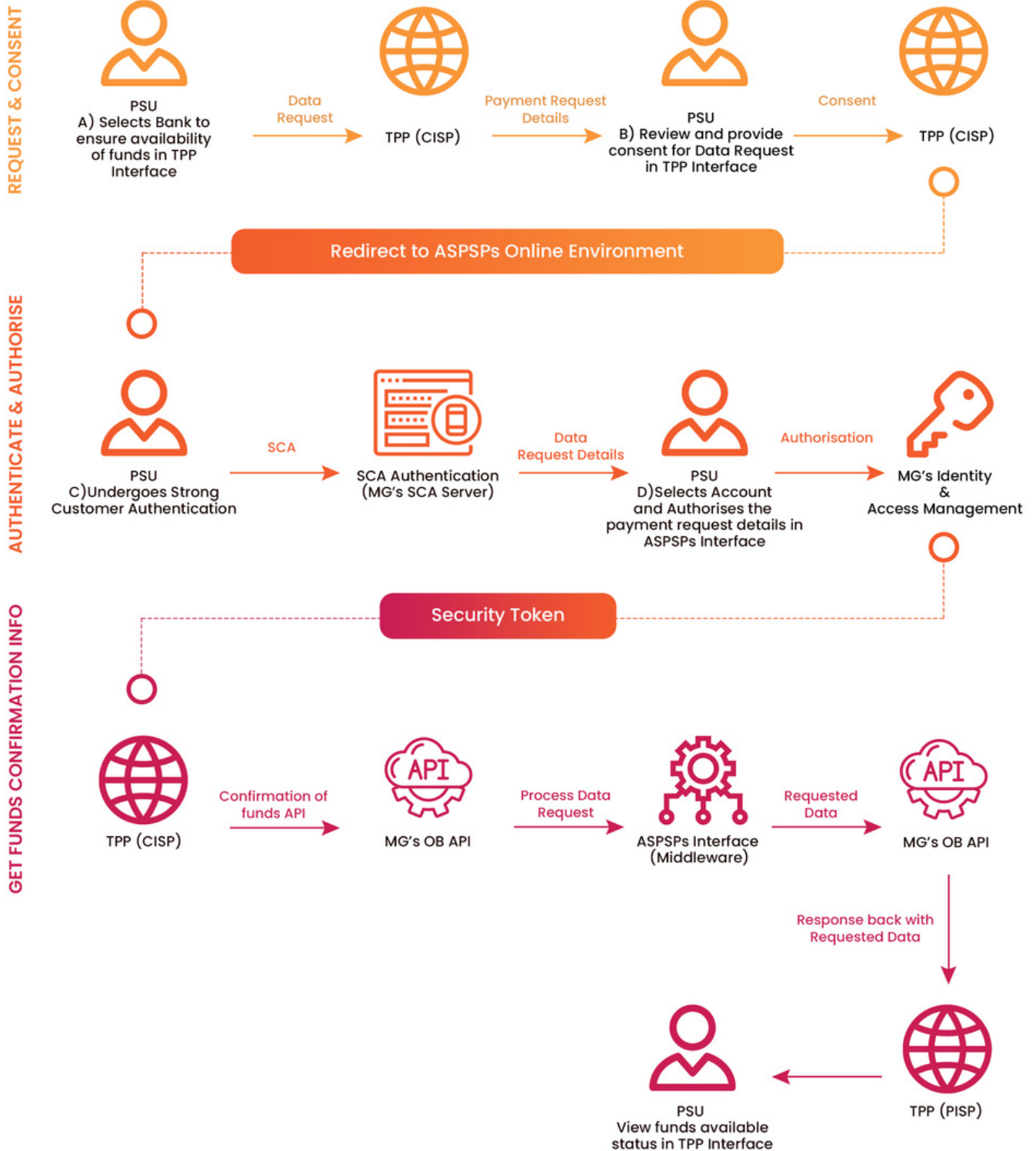
The customer (payment service user) initiates the payment in the third-party provider (TPP) application by choosing the bank (ASPSP) he/she wants to pay from and provides consent for the payment order. The PSU is redirected to chosen bank's interface for SCA and Macro Global's SCA services is triggered to verify and validate the PSU. By using the Payment Initiation API, regulated TPP can get instant access to banks channel and Macro Global handles the integration and seamless connection between the banks and third-party providers (TPPs) by eliminating the intermediaries from the payment flow. Macro Global take care of all the technical connections to banks and make it easier for customers to complete payments by improving their experience and keeping them engaged in the bank's environment. Tavas enable bank customers to make instant payments from the account of their choice using the authentication methods and reduce the complexity regardless of how the bank handles payment and authentication. Macro Global ensures secure payment initiation services and security breaches are less possible and offer a streamlined payment experience for the customer (PSU). Upon successful payment, the customer is redirected to the TPP app, and a success message will be displayed in the TPP interface.

Confirmation of Funds (COF)

The banks (ASPSP) or other payment service providers who issue card(s) as a payment instrument for their customers to perform cashless transactions are commonly known as a Card-Based Payment Instrument Issuer (CBPII). The cards issued by the CBPIIs are directly linked with the bank accounts of the customers. When the customers initiate a payment/transaction through the cards provided by CPBII, the Confirmation of Funds (COF) services by the TPPs will assist and confirm the availability of the required funds within their bank account and complete the subjected payment/ transaction.

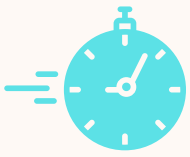
The customer (payment service user) signs the TPP application and requests for confirmation of funds from a specific account to check whether required funds are available in the account before a payment initiation. The PSU should authorise the third-party providers with explicit consent to check the funds by selecting the bank provided in the TPP interface. Macro Global handles the integration between the banks and third-party providers (TPPs) by providing the response based on fund availability in the requested account. In the TPP interface, the customer (PSU) should provide the amount in order to confirm the availability. The customer (PSU) will be redirected to the bank's Internet Bank Website/Mobile App to select the desired account. Macro Global's Tavas supports multiple security implementation options with end-to-end encryption and explicit customer consent. With Macro Global's consent management, banks can request and capture customer (PSU) consent to use their data by complying with Open Banking(PSD2) regulations. The PSU authenticates with their bank (ASPSP) and the required information is instantly retrieved. In the background using the Confirmation of Funds API, Macro Global sends the details of whether the requested fund is available in the selected account for PSU to view the details in the TPP interface.

CONFIRMATION OF FUNDS SERVICE



- *ASPSP (Bank)
- *TPP (Third Party Provider)
- *PSU (Payment Service User)

Business Benefits



**Rapid
Deployment**



**Risk
Reduction**



**Secured
Environment**



**Single
Integration**



**Cost
Effective**

- ⚡ Leverage the benefits of the Open Banking with Tavas, a cloud-based solution and Macro Global's Open Banking API gateway enables the ASPSPs to flawlessly integrate their back-office applications (CBS) with the TPPs.
- ⚡ Dedicated developer portal for seamless TPP onboarding with Sandbox (test) environment enables the AIS, PIS and COF services to the TPPs with utmost security.
- ⚡ Comply with Regulatory Technical Standards (RTS) by enabling Strong Customer Authentication (SCA) for accessing the customer financial accounts.
- ⚡ Authentication and authorisation of the API access through the dedicated Identity server that adheres to OAuth 2.0 and OIDC Protocols.
- ⚡ Get through the Functional Conformance test held by the Open Banking Implementation Entity (OBIE) and obtain the 'Conformance Certificate' upon successful implementation in accordance with Open Banking API specifications.
- ⚡ Round the clock technical assistance from the OB authorised Technical Service Provider (TSP).
- ⚡ Macro Global's security services protect the banks' APIs from unauthorised access and ensure only authenticated access requests are processed.
- ⚡ Cloud-based architecture for scalability and availability (24/7) and reduce the risk of fraudulent actions.

We are here to help you

If you want to learn more about our products or services or just have a question?

If you need advice from our expert team who understand your business better than our peers?

If you want to know how we transformed businesses using our unparalleled industry and domain expertise?

Please click on the web link below to access our sales desk telephone numbers and email and we will be in touch straight back to you.

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