

Sensedia Innovation

Open Banking Basics

A Crash Course for Banks
and Credit Unions

Enabling a more digital, connected
and open world

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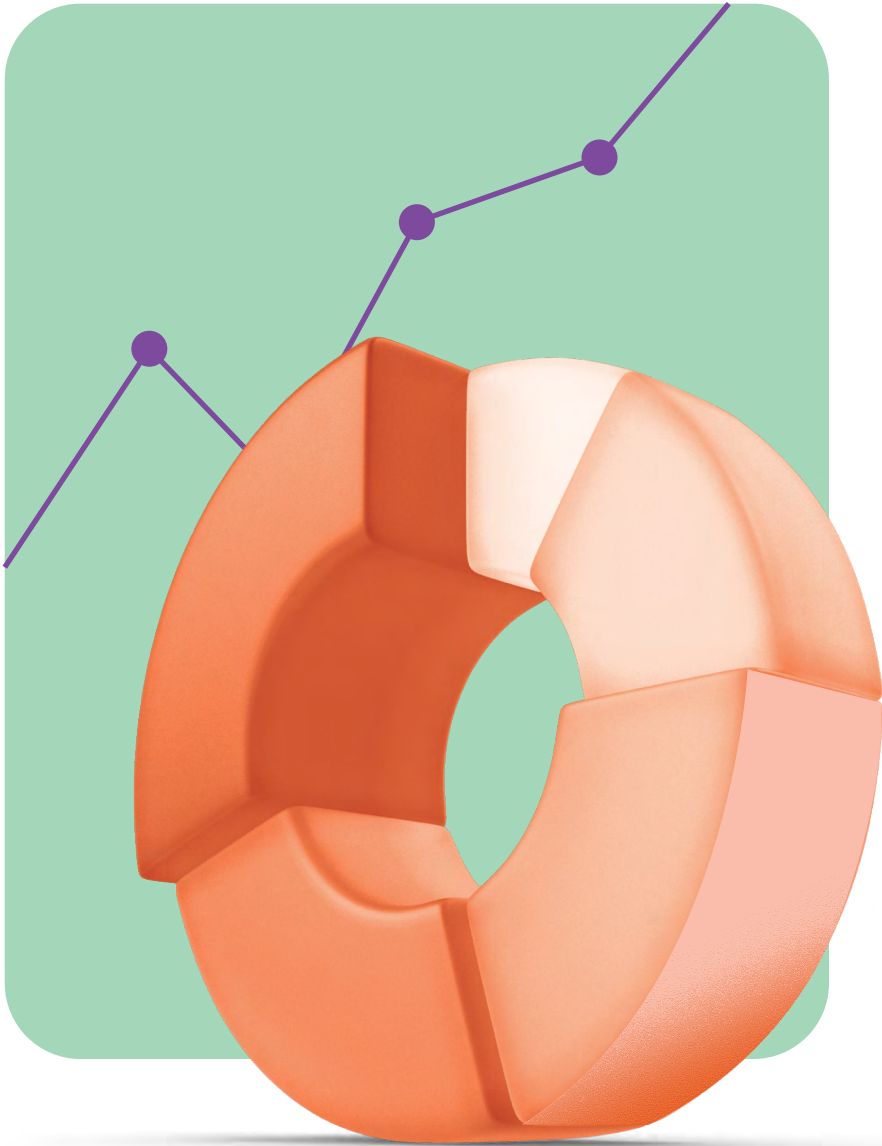


This whitepaper provides an overview of the current Open Banking landscape in the United States, emphasizing the vast opportunities it offers banks, credit unions, and fintechs in the financial services sector.

As financial services providers navigate the Open Banking landscape, understanding its industry impact and potential is crucial. In this paper we will offer expert insights, technical guidance, and success stories that present an Open Banking approach designed to leverage new opportunities through strategic and efficient data exchanges, opening the door to improved experiences and engagement.

Sensedia's Open Banking Solution plays a central role in connecting key players within the ecosystem, including data providers such as banks and credit unions, data recipients, like fintech applications, products, services, and data access platforms. We also pay special attention to the roles of standard-setting bodies like the Financial Data Exchange (FDX) and the federal regulator, Consumer Financial Protection Bureau (CFPB).



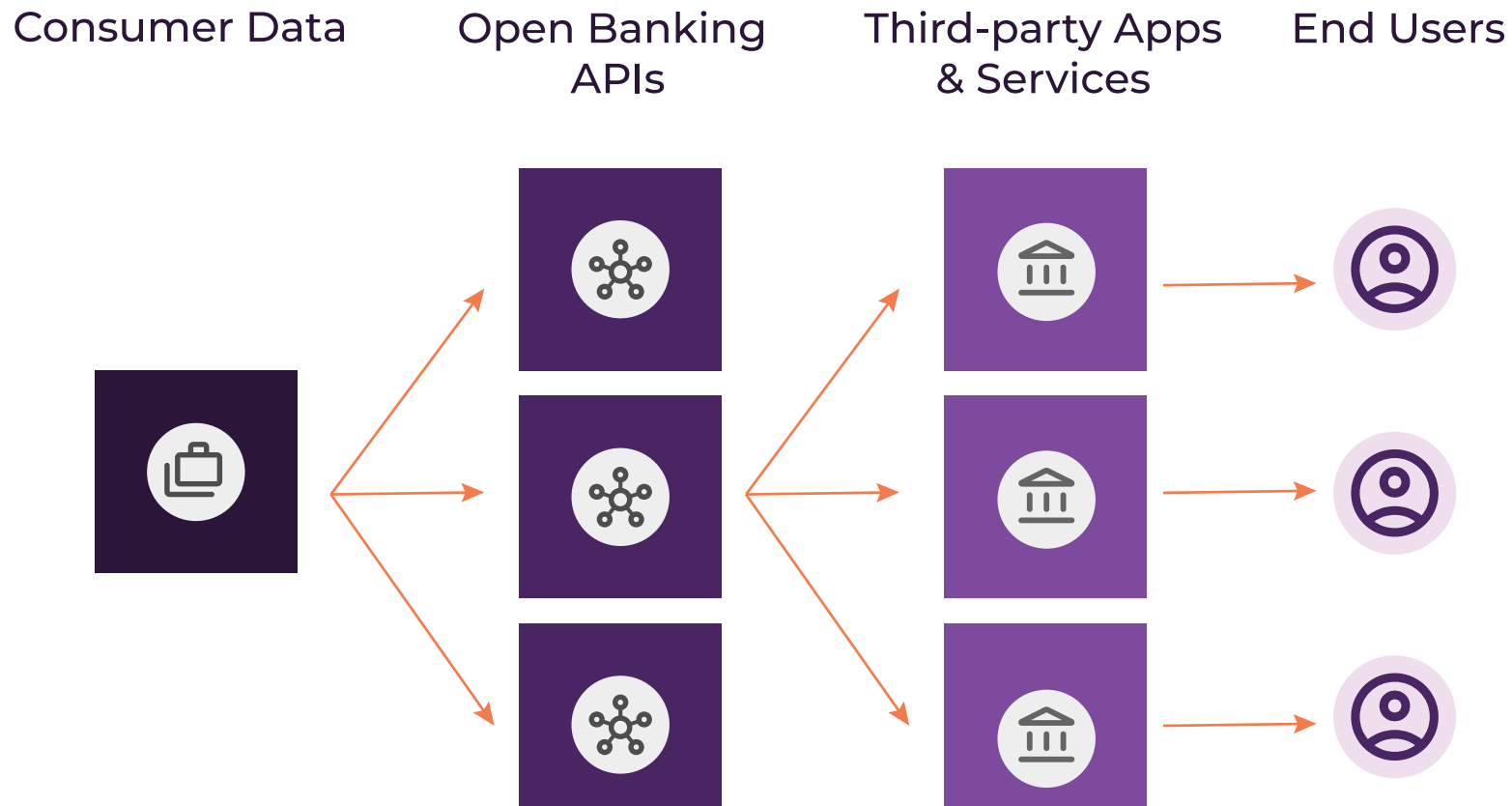


Introduction

The U.S. Open Banking movement is market-driven, responding to the need for efficient data sharing across various financial platforms.

This movement is primarily motivated by consumer demand for more accessible and integrated financial services.

The Consumer Financial Protection Bureau (CFPB) provides regulatory oversight to ensure these initiatives align with industry compliance standards and that all participants safeguard consumer interests.



Open banking stands at the forefront of financial innovation, enabling a transformative approach to data management in the financial sector. It allows the seamless sharing of consumer-permissioned financial data among a diverse array of players — including fintechs, banks, credit unions, and other financial institutions — with third-party providers via advanced Application Programming Interfaces (APIs).

Data providers in the Open Banking ecosystem, primarily banks and financial institutions, are essential for supplying crucial financial data. They are tasked with providing consumer financial information securely, based on consumer consent, to authorized third-party services through APIs. Under CFPB regulations, these processes are governed to ensure the security and privacy of consumer data, reinforcing trust and innovation in a customer-centric financial sector.



Open Revenue Streams

Open APIs serve as more than just technological tools; by leveraging these APIs, financial institutions can access new revenue streams through collaborations with fintechs and other partners, including data aggregators, while also delivering improved digital products and services. This ecosystem collaboration improves financial products and digital experiences, meeting the demands of modern customers.

An example highlighting the significance of these partnerships is the **collaboration between personal finance apps and digital banks**. By securely sharing detailed transaction and spending data, these platforms can use advanced algorithms to **analyze and offer more precise financial products**, including improved loan assessments, better overdraft management, and personalized budgeting advice.

As evident in this example, Open APIs not only improve the overall consumer experience but also positions traditional banks and credit unions as key players in the fintech ecosystem, driving innovation and promoting financial inclusion.

Security & Compliance

API security, compliance, and standardization are critical to Open Banking. Industry consortia like the Financial Data Exchange (FDX) and the National Automated Clearing House Association (Nacha) are two organizations currently working on setting standards aiming to enhance security and interoperability in financial services.

Together, the collaborative efforts of standard-setting organizations and the regulatory guidance of the CFPB form the backbone of a secure, compliant, and consumer-centric financial services industry. This unified approach aims to maintain the integrity and reliability of the financial ecosystem, benefiting both consumers and financial institutions.

This is particularly vital in mitigating risks associated with obsolete practices like screen scraping, which retrieves financial data by reading and copying information from web pages, a process that raises significant security and privacy concerns due to the sharing of sensitive login details and the potential for unauthorized data access.





Customer Experience & Loyalty

By providing unprecedented access to end-user data, Open Banking unleashes the potential for personalized financial services that resonate and align deeply with consumer preferences and demands. Data-driven personalization can streamline financial management for consumers, consolidating multiple accounts and financial services into a unified, user-friendly interface.

Sophisticated analytics can be employed to study spending patterns and consumer behaviors, so that **banks and financial institutions can offer personalized insights, products, and services that are unique to each individual.** These features not only provide practical value but also create a deeper, more intuitive connection with customers.

These advancements signal a shift towards a more customer-centric landscape. The development of new, convenient, and hyper-personalized digital experiences, will result in higher engagement and loyalty. This level of personalization will quickly become the industry standard, compelling financial institutions to embrace openness and innovation to stay competitive.





Terminology

Let's consider the Financial Data Exchange (FDX) as an example, representing the leading organization working to establish standard practices and API interoperability for open banking in the United States.

We will use the FDX taxonomy of permissioned data sharing document as a reference to highlight some of the more important terminology used to describe existing processes.



End Users

Consumers, individuals, and business entities who are giving permission to share their data or authorize transactions with Data Recipients.



Data Recipients

Applications, companies, financial institutions, products and services where End-Users (or delegates) manage or act on their finances.



Derived Financial Data

Consists of observations, data profiles, analysis or models derived from Financial Account Information.



Data Providers

The entities who hold End-Users' Financial Account Information, including, without limitation to banks, credit unions and brokerages.



Data Access Platforms (Data Aggregators)

Intermediaries that facilitate financial data access, transit, storage and/or permissioning on behalf of Data Recipients or End-Users.



Screen Scraping

A method for retrieval of account Information by an authorized third-party typically using an End-User's credentials via electronic means (often from an HTML page via automated script) as though the End-Users were connecting directly to the Data Provider.



Strong Customer Authentication (SCA)

Prescribes the use of two or more authentication factors (known as Multi Factor Authentication (MFA)).



End-User Authentication

Process by which the End-User's access to Financial Account Information is authenticated by the Data Provider.



End-User Authorization

Process by which the End-Users consent to share their Financial Account Information with Data Access Platforms or Data Recipients.



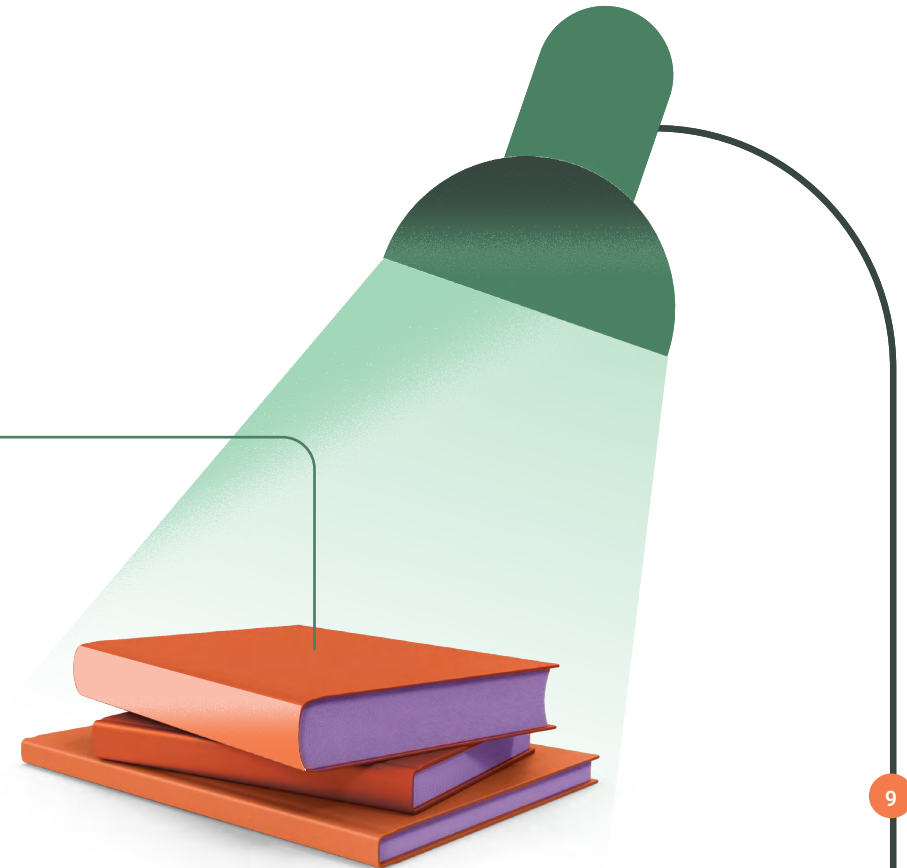
Consent Scope

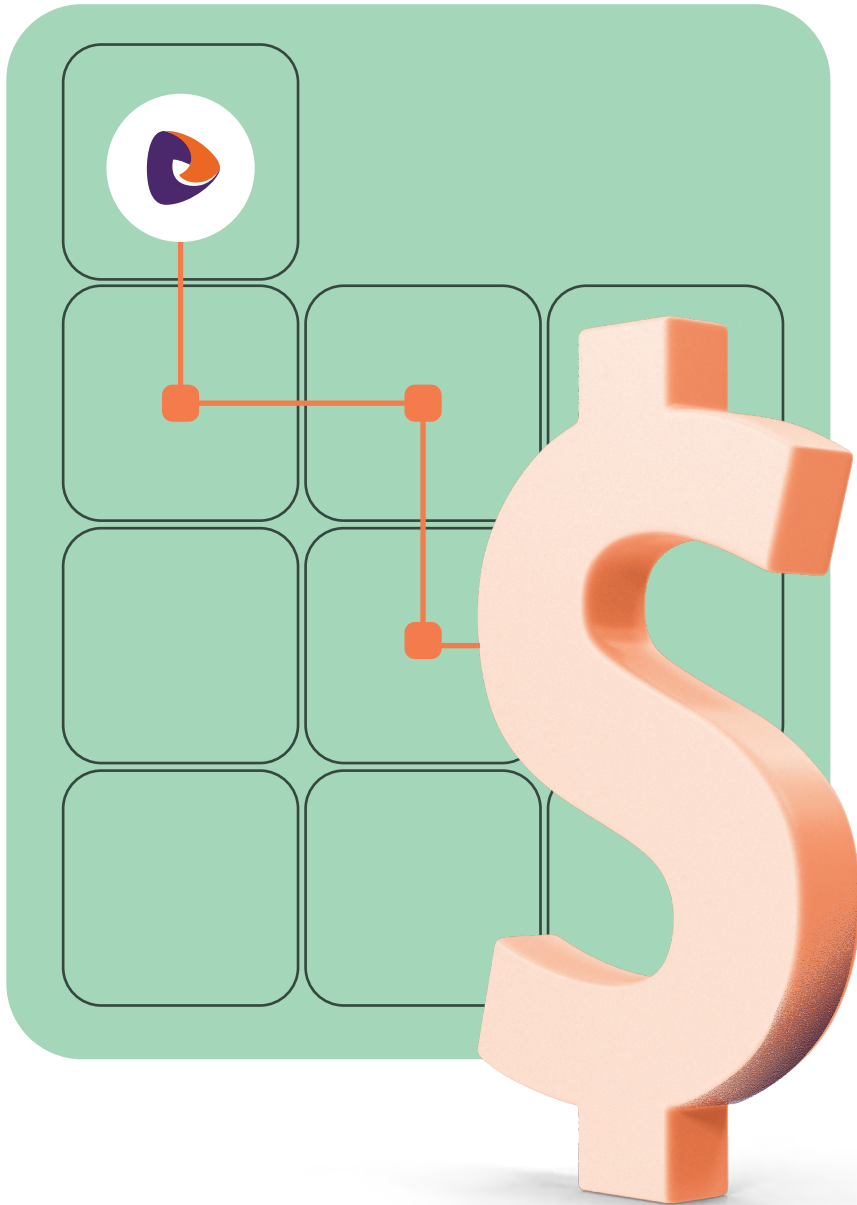
The specification that defines what data is requested, between whom, its purpose, and duration for a specific consent granted by an End-User.



Consent API

The application programming interface that transmits Consent Scope data.





Sensedia Open Finance

Traditional API management methods and platforms currently fall short in addressing Open Finance needs in consent management and authorization capabilities, which is why Sensedia's solution is anchored on advanced API management designed to address current Open Finance challenges.

Our API platform offers a robust and scalable foundation with powerful control capabilities including observability, scalability, and security features. We also prioritize the developer experience to simplify API consumption for developers and third-party partners.

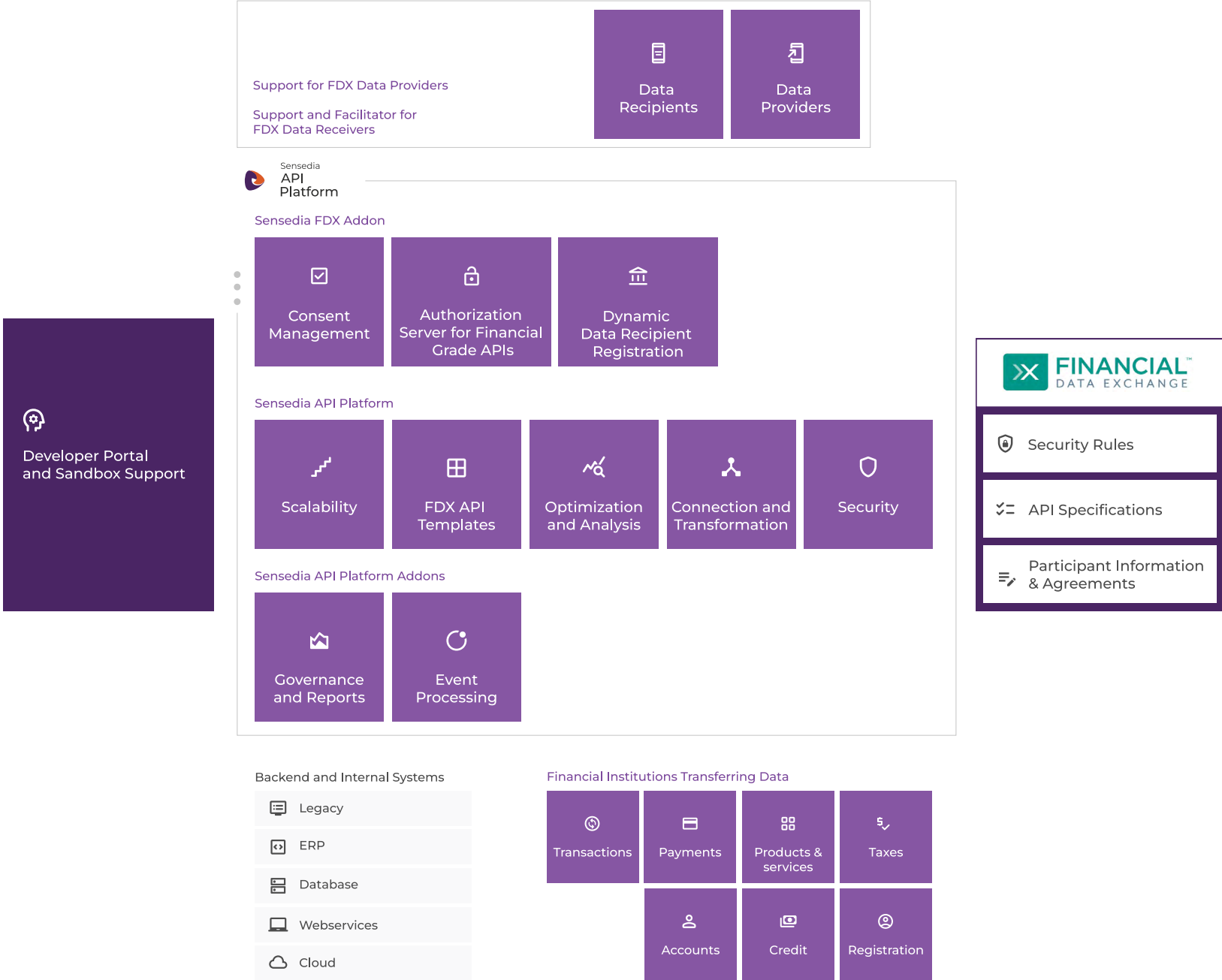


Figure 2 depicts the componentized architecture for Open Finance.



Customer-Centric Data Sharing Ecosystem

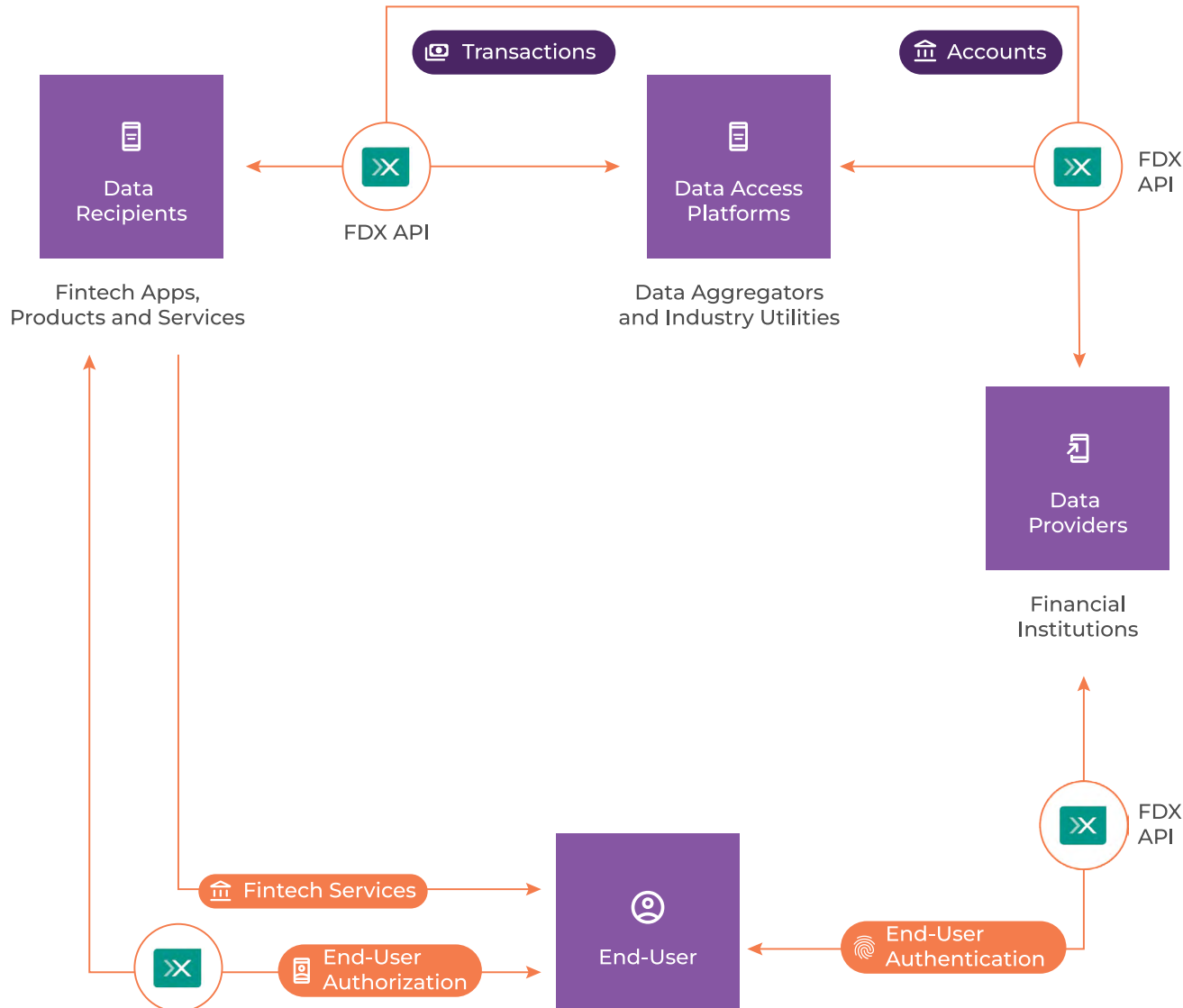


Figure 3 depicts the componentized architecture for Open Finance.

At Sensedia, we believe that efficiency, profitability, and compliance are fundamental in a successful Open Banking Strategy.

Our mission is to provide financial institutions and third-party providers with the building blocks and guidance necessary to create and deliver better, innovative, and convenient financial products and services to their customers.



APIs are the glue to everything digital

Banks, fintechs, and credit unions will leverage Open Banking APIs and unlock new services and digital experiences, with strategic partnerships playing a vital role in expanding their digital offerings and reach in the financial ecosystem.



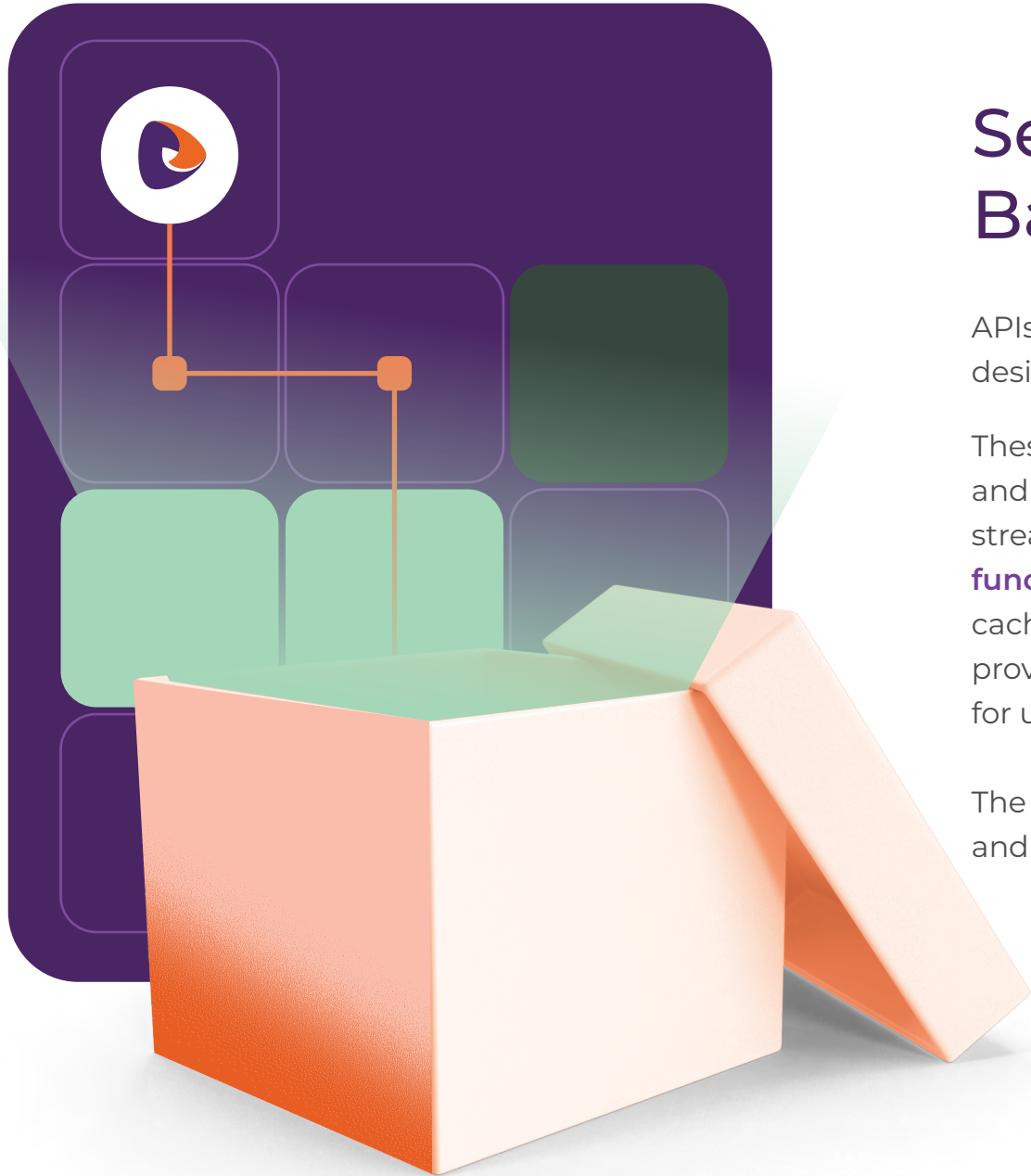
Driving efficiency through simplification

APIs offer transparent and flexible ways to access and interact with specific functionalities or data. Why create several black box business applications when one well-crafted API strategy can serve various business processes or applications?



Profitability meets Compliance

Through FDX API standardization and interoperability, banks, fintechs, and credit unions can enhance profitability and streamline processes using pre-built connectors and out-of-the-box solutions that align with both business and compliance requirements.



Sensedia Open Banking APIs

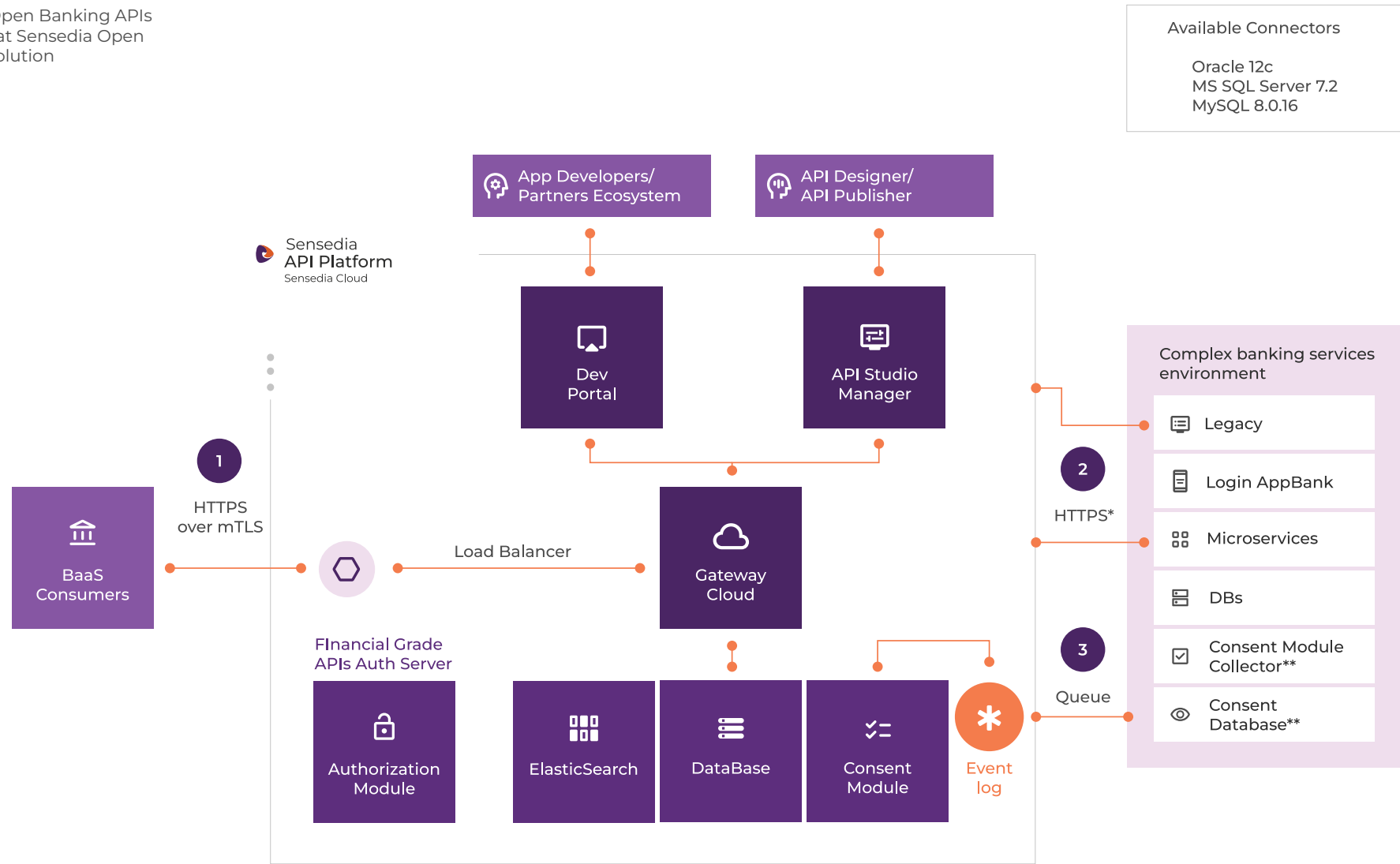
APIs bridge applications in an ecosystem, harmonizing API design, data formats, standards, and data exchange.

These API patterns and documentation empower partners and consumers to create new products and revenue streams. **Sensedia's API platform offers 'out-of-the-box' functionalities**, including security, traffic management, caching, and connectors to integrate with databases, cloud providers and other protocols, enhancing agility and stability for underlying banking services.

The Sensedia ecosystem ensures governance, compliance, and regulation within the API and platform framework.



Figure 4 Open Banking APIs deployed at Sensedia Open Finance Solution



BaaS Platform

API patterns and documentation providing partners and consumers with fast and reliable information to create new products and revenue streams.

Sensedia API Platform provides “out-of-the-box” functionalities like security, traffic management, cache, and connectors to Oracle databases and other services giving agility and stability to the underlying banking services.

The Sensedia ecosystem covers Governance, Compliance, and Regulation under the API and platform functionalities.



Strong Methods of Authentication & Authorization

Data exchange between participating institutions primarily occurs through Application Programming Interfaces (APIs).

For the integrity and security of these exchanges it's crucial to have reliable authentication and authorization methods in place that ensures only the right actors have access to the data.

Sensedia's API Management Platform plays a central role in this exchange, providing an out-of-the-box solution for authentication and authorization.

Authentication and authorization methods alongside with consent management keep data secure when it's shared between data providers, data recipients, and data access platforms. They ensure that only the right actors will gain access to the data. The end user has full control over which data will be shared and for how long.

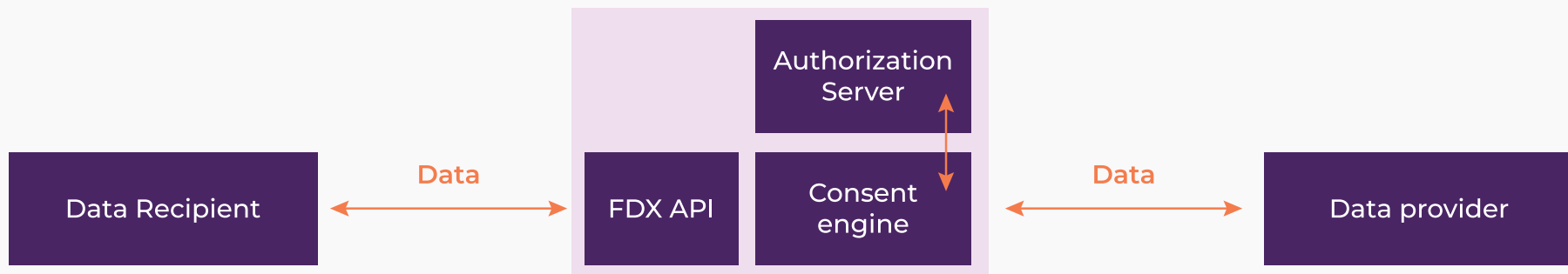
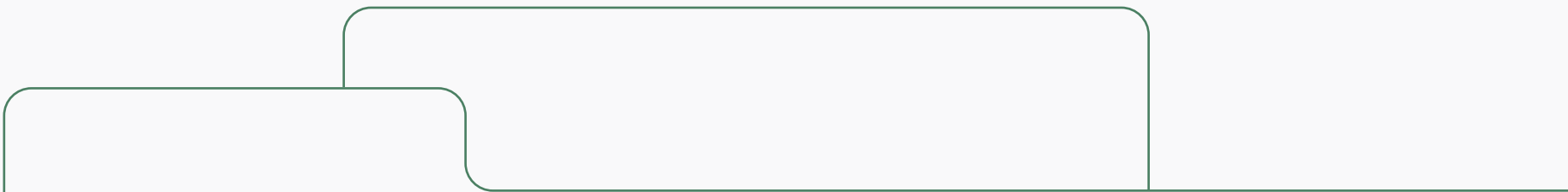


Figure 5 illustrates the authentication & authorization method



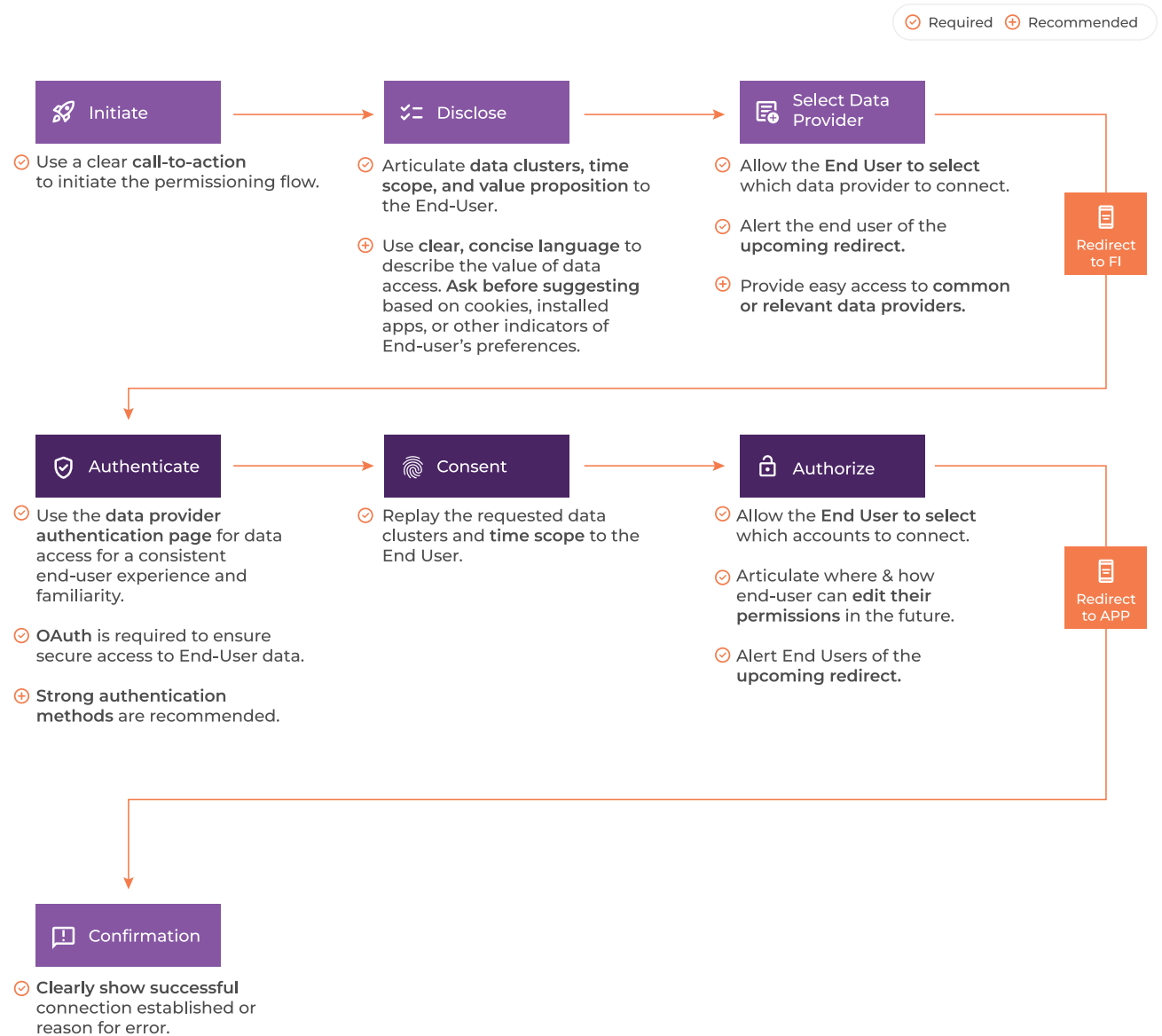


The Open Banking Journey

The foundation of Open Banking is built upon End-User consent.

The ecosystem starts with the End-User consenting banks, credit unions, and fintechs to utilize personalized data to enhance digital banking products and services tailored to their individual needs.

This grants customers control over their data while boosting financial institutions' access and offerings.











Fast and simplified regulatory compliance



Project goals

-  Various security checks to make **unlocked data secure and accessible**
-  Compliance with Open Banking regulations in an **easy and simplified way**
-  Open Banking as a **growth lever**

Key results

-  The adoption of the Open Banking regulation was **smooth and easy**.
-  The adoption of Open Banking has also been an opportunity to **unlock data in its core systems**, which are now connectable and future-proof.
-  Open Banking as a growth lever has boosted results by up to **28.2% in 12 months and a 240.5% increase** in active digital account holders.



Established in the 1930s, Banco Bmg provides accounts, loans, insurance, and investment products to individual, corporate, and wholesale clients, along with retail management support. It pioneered offering payroll-deductible loans.



Sensedia supports Banco Rendimento in the **BaaS evolution and payment management** through APIs, making them a state-of-the-art pluggable bank

Rendimento/

Experience gains

Rendimento has firmly established itself as a banking platform, offering a diverse range of products and services. Its primary business channels are powered by a comprehensive suite of services and APIs, including bill payments and versatile card operations, all accessible through our user-friendly app.

Strategic gains

Monitoring, facilitating, and streamlining the demand for various services.

Organization of all documentation

Efficiency in the management and flow of transactions, all while meeting in compliance.

“The strategy was to create a revolutionary ecosystem, supported by a platform of APIs, and thus become a great BPO (Business Process Outsourcing) of services, a flexible gateway that allows customers to plug new services in an agile, efficient and cheap way to their business. For that, we needed a strong partner, with a stabilized solution, aggregator of values, through APIs and we chose Sensedia.”

André Luiz Alves, Executive Director of IT at Banco Rendimento.



Conclusion

Open Banking APIs are creating innovative solutions for the banking industry by allowing financial service providers to efficiently and securely communicate and exchange financial data.

Banks, credit unions and the fintech industry enhance the creation of financial ecosystems through APIs, providing customers and members with secure and personalized navigation in the financial services landscape. This heightened engagement is an effective means to boost revenue, particularly benefiting small businesses by offering easy access to new financial services and products.



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Authors

Natalia Bortoletto Cruz

Head of Open Finance at Sensedia

Natalia Cruz is responsible for guiding companies in the steps to be compliant with Open Finance requirements. She leads high-performance teams in the implementation of highly scalable and reliable solutions. Cruz has ten years of experience in project management and systems analysis. She holds an MBA from FGV - Fundação Getulio Vargas.

Filipe Torqueto

Head of US Solutions at Sensedia

Filipe is an accomplished solutions architect specializing in APIs, microservices, and serverless technologies. With a decade of experience in software development processes, Torqueto possesses a deep understanding of transforming organizational requirements into robust technological solutions and bridging the gap between tech and business. Torqueto is an ardent practitioner and advocate of Domain-Driven Design combined with other cutting-edge tools to harmonize code and business objectives.

Diogo Marques

Marketing Executive at Sensedia

Diogo is a marketing operations and communications professional with a background in fintech, crafting messaging and positioning for products and innovative solutions in financial services. Diogo has over 12 years of experience developing and executing award winning creative campaigns.





About Sensedia

Connecting enterprise efficiency and business agility, Sensedia is a leader in multi-layer integrations. APIs, microservices, and events. Our solutions are trusted globally, helping businesses unlock data, innovate customer experiences, and embrace new business models, like ecosystems or Open Finance. We power businesses through agile integrations, removing bottlenecks. Our specialized solutions and team of experts promote innovation through modern integrations that enable new products, services, and experiences for the entire ecosystem. We are recognized by Forrester Research as Leaders in The Forrester Wave™: API Management Solutions, Q3 2022, with top scores in Product Vision, Planned Enhancements, Supporting Services, and Market Approach.

Know more about us:

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