PIX Implementation

Instant payments with QR Code

Getnet

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- This material is part of a series that show how Sensedia supports large companies in building innovative solutions.

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About Getnet

Getnet is a technology company within the Santander group that offers a complete portfolio of payment methods products and services, with state-of-the-art technology that allows integration with every capture method.
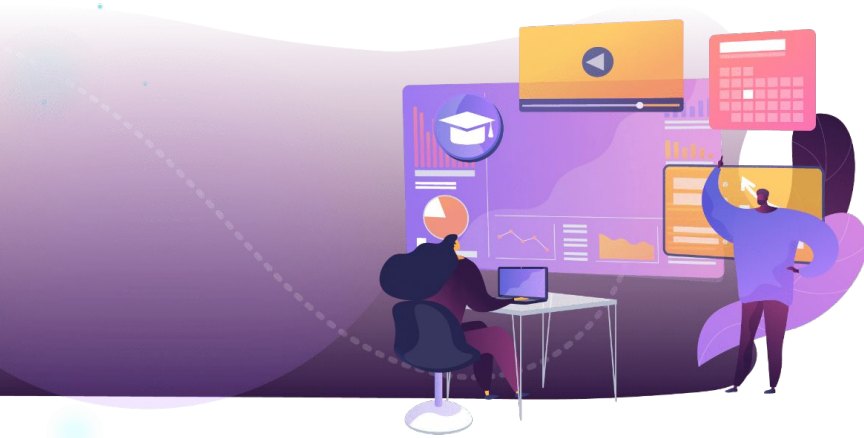
Project context

About PIX

PIX was launched in February 2020 by the Central Bank of Brazil (Bacen). It is an API-based instant payment system that will allow payments and transfers to be made within 10 seconds, and is another alternative to TEDs and DOCs, the traditional systems used in Brazil.

In addition to transferring funds between accounts, PIX is a powerful payment method that can be made available in various services, from commercial establishments to online shopping, making the shopping experience much easier and expanding the possibility of instant payments, without the need for prepaid models or stand-alone payment systems. All these transactions will be available 24 hours a day, 7 days a week, meaning there will be no more "business days" for clearing transactions. All these changes promise to revolutionize the banking and payments sector and provide a major boost to competition within the industry, as it will be available to everyone.

Project context

PIX Implementation at Getnet

Auttar is a Getnet company focused on developing technological solutions for commercial automation that ensure efficient business processes.

As an opportunity, they considered Sensedia to be a partner with great knowledge in implementing APIs and Microservices that could streamline the launching of PIX, with a scalable and high-performance solution. The entire solution was designed jointly by Getnet and Sensedia, bringing a detailed view that allowed us to quickly overcome technological barriers.

Benefits for the business

The PIX project allowed the customer's affiliated merchants to carry out payment transactions via QR code using the PIX API. In addition to Santander, the project will also allow third-party payment services to carry out transactions, becoming an integrating source for several financial institutions and thus ensuring the longevity of the project.

The process is very simple. The merchant generates a QR code on a Getnet POS, and the customer simply scans the code through the PIX feature in their banking app. The transaction is confirmed within 10 seconds.
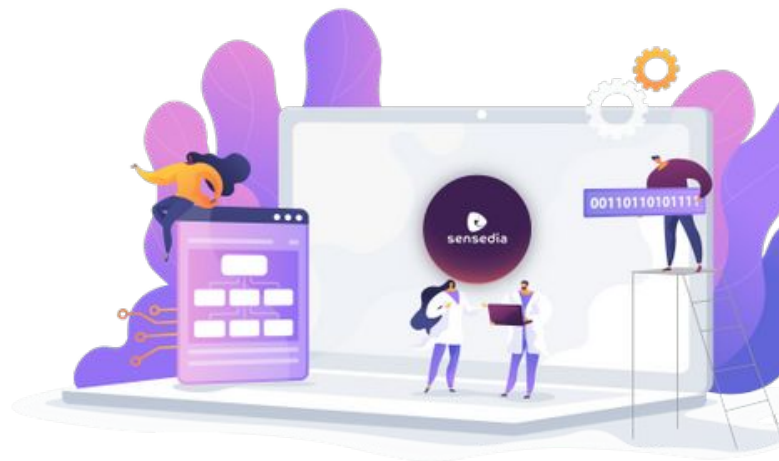
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About the project

Sensedia's consulting team helped create the platform based on a new Microservice-Oriented Architecture concept. Every API was implemented using the NestJs framework, east-west communication using message broker, Domain-driven Design (DDD) modelling, and with every microservice running on a Kubernetes-based container platform.

Based on the client's on-Premise infrastructure, the challenge was implementing a solution based on synchronous microservices for generating QR codes to carry out payment transactions via PIX. Sensedia's consulting team are experts in Microservice-Oriented Architectures using the latest technologies available in the market. Thus, the role played by the team was fundamental to reduce the development cycle of this delivery, allowing Getnet to implement PIX at the POS (Point of Sale) in a short period of time.

Using agile methodologies, as in all projects, the deliveries were divided into sprints with the MVP approach being applied in each cycle. The development phase started after the design phase, which established the technical and architectural definitions of the solution. First, Sensedia's consulting team proposed a reference architecture using the NestJS framework, which later allowed the generation of input for the development of nine more services that made up the PIX product.
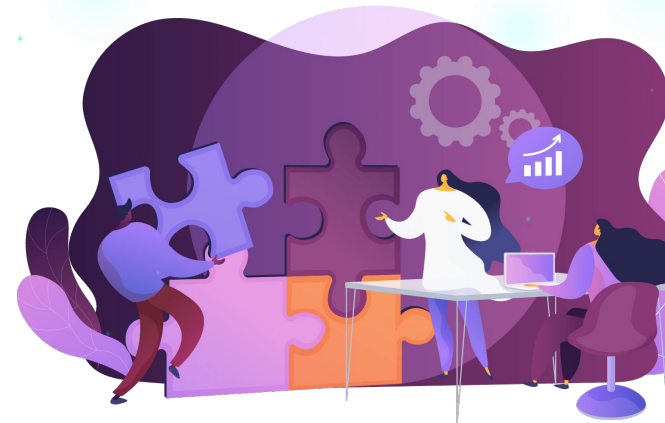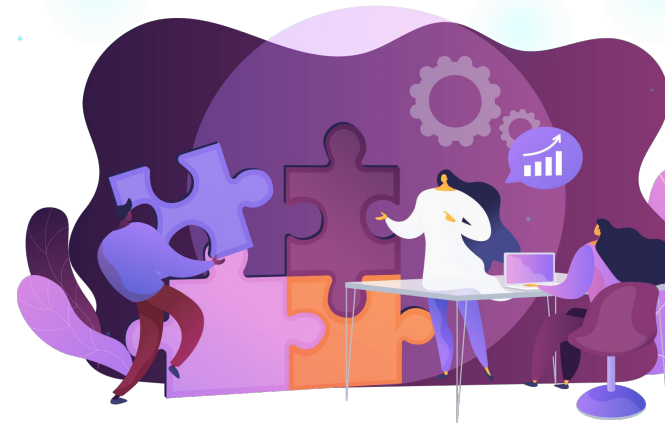
About the project

Meanwhile, the team also made available in development environments some mocks of QR code generation and query services, allowing the other Getnet teams to unlock the development of other fronts. Once the first stage was completed, the next step was to enable the solution for the accreditation of commercial establishments to register on the Getnet PIX.

In this phase of the project, a very important deliverable was the implementation of a maintenance flow, which allows the merchant to change data and the PIX key, or even disable the feature that allows payment for their products.

In the third and most important phase of the project, the team started developing the transactional flow of the solution. This was the biggest challenge in the project, as it involved the services connecting all customer capture methods (POS, TEF, e-commerce, digital POS, among others) with the direct PSPs.

In this case, the scenario was basically to allow payments through the PIX to be credited directly to the merchants' bank accounts. At this point, services were developed, responsible for generating and settling payments in Getnet's transactional core.
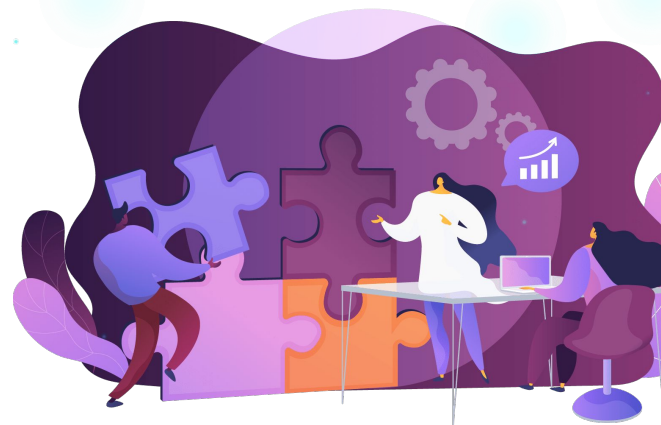
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About the project

The solution was broken down into two main services that contained the client's necessary business rules, such as anti-fraud, charge generation, payment inquiry in the direct PSP, and dynamic QR code string generation. Therefore, the generation service was responsible for initiating the payment, and the settlement service coordinated the tasks related to validation and receipt by the retailers.

The final stage of the project was to validate the solution developed with the correction of flaws and bugs with the Getnet team. Getnet PIX went live on the market in March 2021, ahead of several industry competitors.
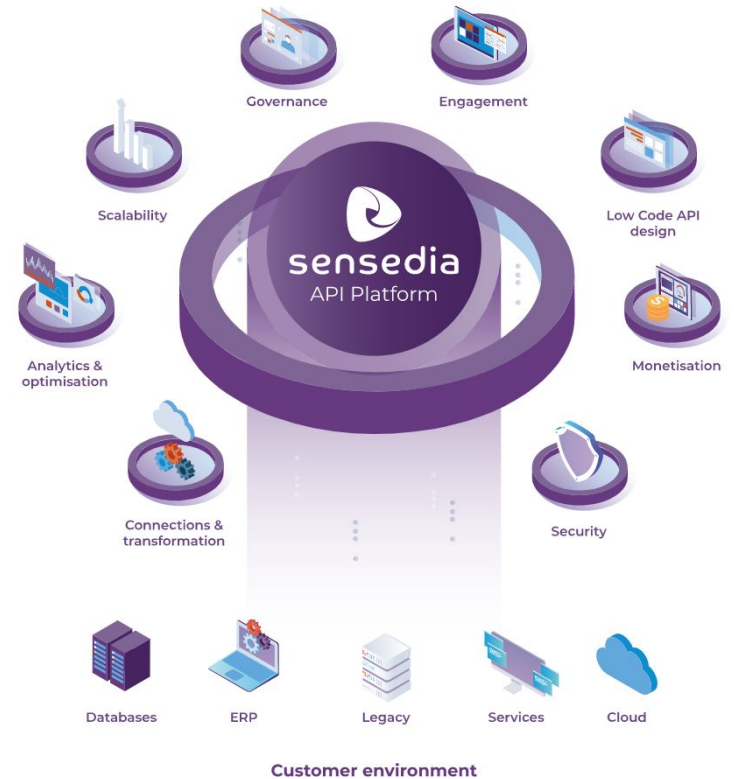
Why Sensedia?

We are visionaries and leaders in modern integrations, with products and services focused on technologies such as APIs and Microservices. Recognized by Gartner and Forrester as one of the world's leading players in the industry, Sensedia helps more than 100 clients by providing Strategy & Professional Services so that their strategies can overcome the challenges of a more digital, connected and open world.

For the PIX project, Sensedia's consulting team joined a multidisciplinary team to make deliveries at an impressive speed, which allowed Getnet to launch the solution on the market before many competitors. The entire development cycle was carried out together with the client, facilitating the understanding of the business and proposing solutions with a greater degree of adherence to the business.

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