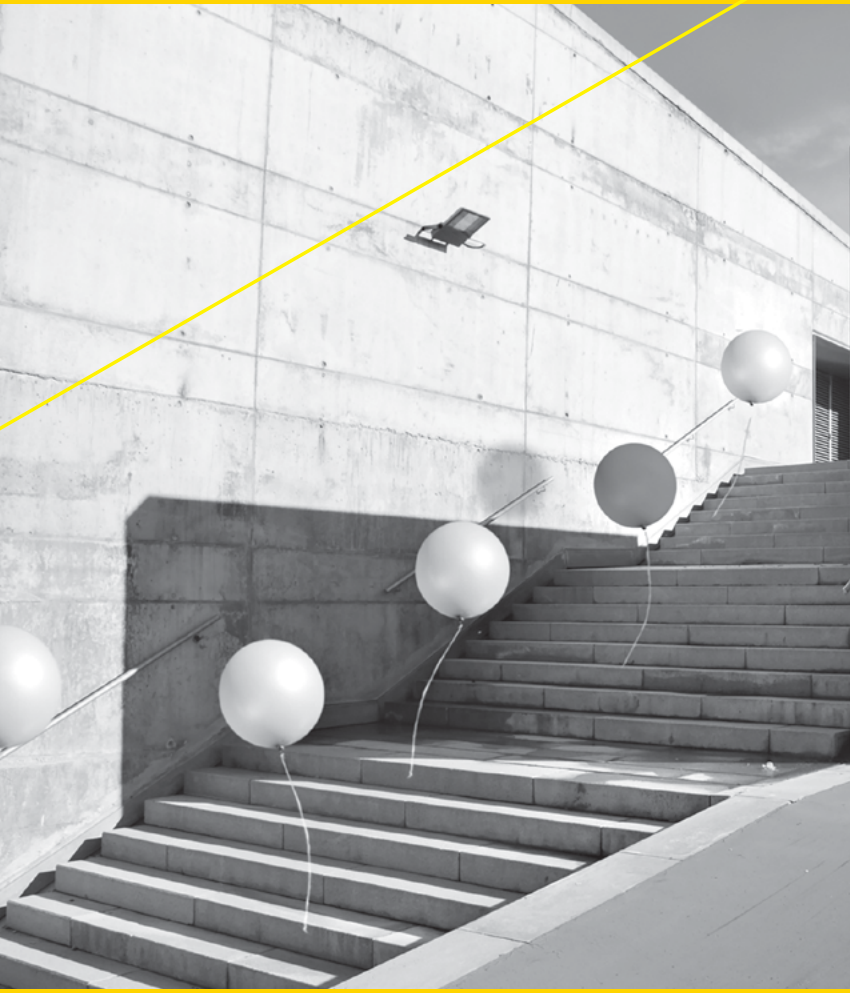
WHITE PAPER

Using the Nedbank API for payments



INTRODUCTION

Around the world the **Open Banking wave** is building momentum, notably thanks to new regulation such as PSD2 in the EU encouraging banks to release their hold on customer data and banking functionality. The intention is to **drive innovation and competition in banking** and an increase in financial services options – both things that we solidly support.

Although similar regulation has not been created in South Africa yet, one of the big five banks, Nedbank, proactively released a set of application programming interfaces (APIs) in March 2019, to champion this shift in banking in the local market.

At the time, Fred Swanepoel, Nedbank's chief information officer, said that the bank is "**placing clients' data back in their hands** and empowering them to decide who to share their data with." This also opens the door for third parties to partner with the bank to provide digital solutions that have not been seen in the market.

In addition to pioneering the Open Banking space in South Africa, the bank is a long-standing client of Digiata and many of our corporate clients bank with Nedbank.

At Digiata, we pride ourselves on our curiosity and love of problem-solving, and our ability to **embrace the new and unknown**, so leapt at the chance to experiment and play with the newly-released Nedbank APIs so that we can pass that knowledge and experience on to our customers. Read on to find out what we think.

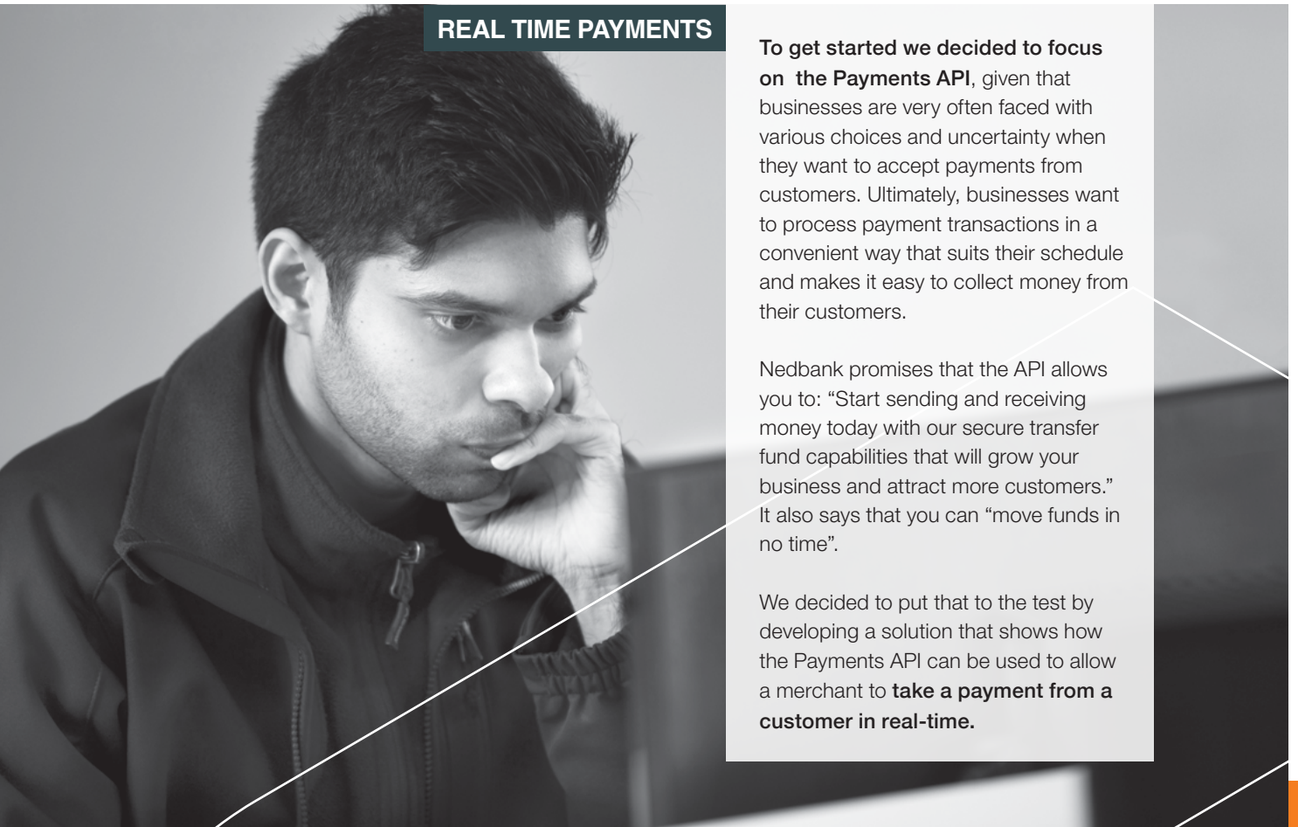
The Nedbank API_Marketplace

Nedbank has made a range of secure APIs, aligned with Open Banking standards, available to approved technical partners, such as Digiata, to leverage the bank's data and financial capabilities.

At time of writing, Nedbank provides the following APIs:

- **Authorisation API:** provides authentication and authorisation. This API is a prerequisite to use any of the others.
- **Payments API:** provides access to Nedbank's payment functionalities and the ability to send or receive money quickly.
- **Customers API:** access customer details such as names and addresses.
- **Personal Loans API:** provides the ability to pay for a product by taking a Nedbank personal loan facility directly from a third party app or website.
- **Accounts API:** provides bank account data.
- **Rewards API:** provides the ability to retrieve Nedbank Greenbacks Rewards or Amex Membership Rewards.
- **Open Data APIs:** provides freely available information. Currently the following two Open Data APIs are available: Branch List API, which provides a list of bank branches for all banks, across South Africa; and Bank List API, provides a list of all banks across South Africa.

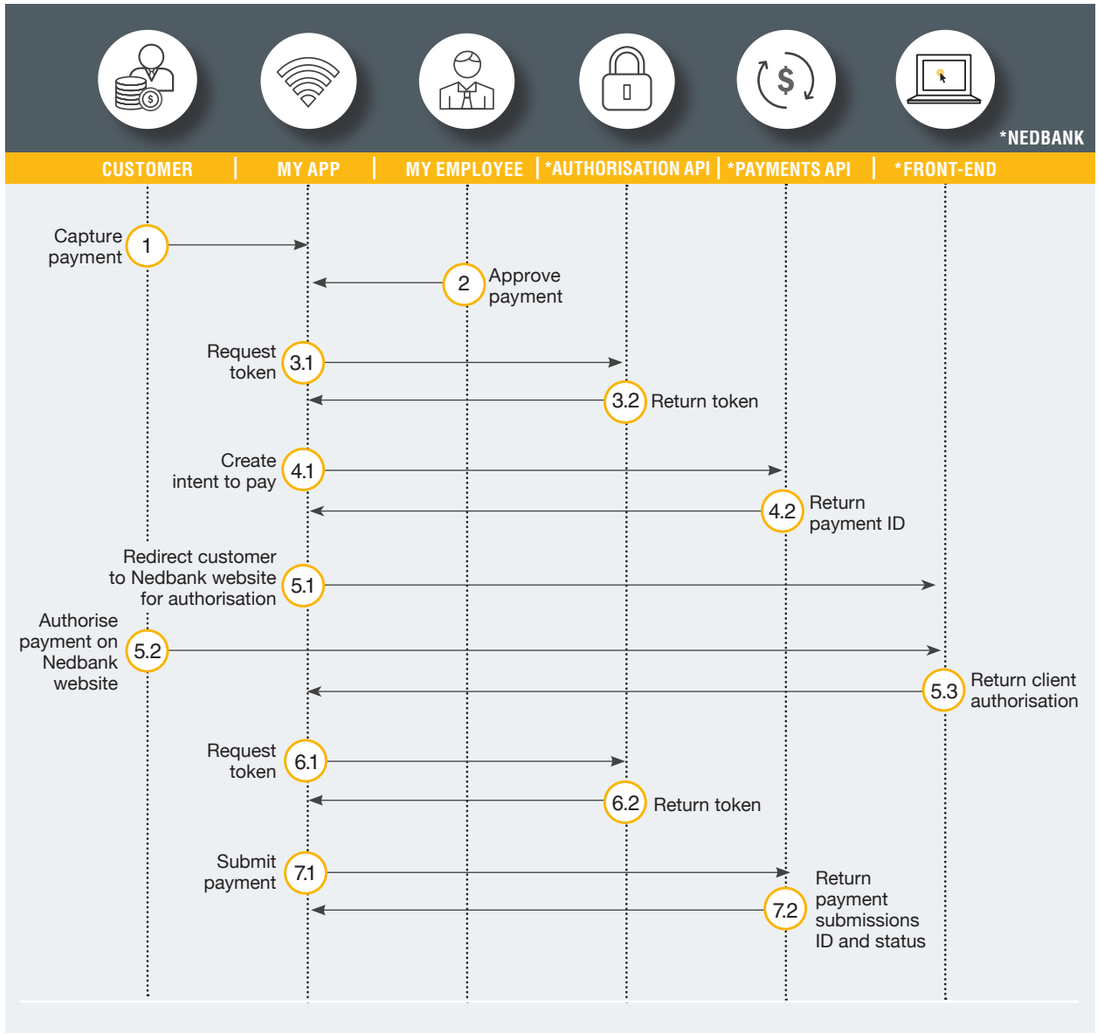
Our experiment with the Payments API



To get started we decided to focus on the Payments API, given that businesses are very often faced with various choices and uncertainty when they want to accept payments from customers. Ultimately, businesses want to process payment transactions in a convenient way that suits their schedule and makes it easy to collect money from their customers.

Nedbank promises that the API allows you to: "Start sending and receiving money today with our secure transfer fund capabilities that will grow your business and attract more customers." It also says that you can "move funds in no time".

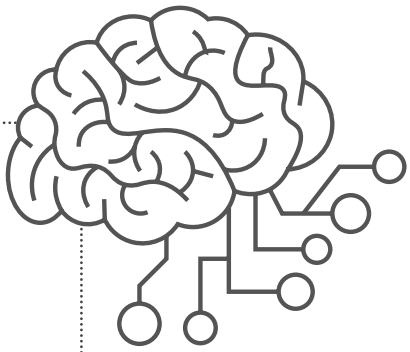
We decided to put that to the test by developing a solution that shows how the Payments API can be used to allow a merchant to **take a payment from a customer in real-time.**



We've sketched out the process in the diagram above

The payment process

1. The customer **initiates a payment transaction** on the web app – either a point of sale (POS) app or an ecommerce website.
2. An employee **approves the payment** and then **requests client authorisation**.
3. The web app **directs** the customer to the Nedbank website to login and **authorise** the payment.
4. The Nedbank API sends the client **authorisation or rejection** to the web app.
5. Upon receipt of the client authorisation, the web app **submits the payment**.
6. The payment **transaction is processed** in seconds and each step in the process is logged ensuring the **status of the payment is known** at all times.



WHAT WE LEARNT

Our most significant discovery was that the **Payments API only allows one payment at a time**. Multiple payments or bulk payments cannot be processed via the Payments API currently. This makes the API **more suited to single POS, websites or mobile sales**.

Because our corporate clients typically do large volume and high value transactions this unfortunately, for the moment, means the Payments API is unlikely to be suitable for them. And so, for the immediate future, we will continue automating these transactions using existing host-to-host (H2H) interfaces and ISO 20022 message standards.

More generally, the support of the Nedbank team was excellent. Because everyone is experimenting with the environment and possible use cases, the API support crew is no doubt inundated with newbie questions. They were great at providing good support and channels for interaction.

Additionally we noticed that there are **some inconsistencies in the APIs**. The APIs use various methods to read values, for instance, json body post parameters, query parameters and form data. On the other hand, interfacing with a bank using web services and a structured universal standard is ground-breaking.

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WHAT'S NEXT?

Our next step is to **experiment with the Accounts API**, which we think could be very useful and applicable to our customers. This API provides real-time account details, account balance and transaction details. The account balance information could be used to power intraday real-time decisions for sound cash liquidity management solutions such as driving top-ups, sweeps or funding transfers.

USEFUL READING:

- OpenBanking - www.openbanking.org.uk/providers
- PSD2 - www.openbankproject.com/psd2
- Nedbank API_Marketplace - apim.nedbank.co.za

www.digiata.com

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