



Challenges and solutions

related to the entry into force of the RTS SCA on the
14 September 2019

Introduction

The PSD2 and the so-called open banking are two of the most frequently discussed topics in the banking conferences today.

This is no coincidence: the evolution of information technology has enabled new business models to emerge in a number of industries, changed consumer habits, and these changes penetrated the financial services market through FinTech and BigTech companies. PSD2 facilitates this process from the regulatory side since it allows FinTech companies to access banking databases to help promote the spread of financial innovation. Open banking is a collaborative model in line with the above changes, whereby banks try to provide higher quality and more versatile services to their customers by involving FinTech companies.

The aim of this whitepaper is to:

- show business trends behind PSD2,
- give an overview of PSD2 and underlying regulatory technical standards (RTSs) and guidelines defining details of the implementation of PSD2,
- and, using guidelines and opinions of the European Banking Authority, give insights into the IT requirements of PSD2 and outline possible solutions.

We hope you find this whitepaper valuable, if you have any further questions or comments, do not hesitate to [contact us!](#)

Budapest, October 2018

The team of Online Business Technologies

Information, findings

The world of banking is transforming due to changes initiated by IT technologies often referred to as disruptive technologies. These technologies involve e.g. portable devices (smartphones, tablets), big data, artificial intelligence and APIs (standardized interfaces), which enable the redesign of service processes between the banks and the clients and give the opportunity to serve the clients 24/7, real-time, without any human interaction. These technologies have already changed the behaviour of customers in many industries and the customers of today expect to be served real-time and user-friendly.

Banks reacted too slow to these innovations, therefore there were companies, which entered the financial market and now compete with banks. These companies are on one hand the so-called FinTechs, small start-ups providing one or two innovative financial services and on the other hand the so-called BigTechs, the technology giants like Google, Apple, Facebook, Amazon and Alibaba, which already made a success in other industries.

These newcomers disrupt the banking industry in two ways: these companies use solely e-channels and provide highly automatized and cheap services to the clients; therefore they put a big pressure on the profitability of banks. In addition to that, they also disrupt client relations, as clients prefer to use the fancy applications and websites of FinTechs and BigTechs, and these companies as intermediaries access the services of the banks through APIs or via screen scraping. If banks let these client relations go away, they will soon be only backstage players providing some basic infrastructure, but profitable client interactions will be done by Fintechs and BigTechs! This will lead to clients sticking to a provider while in the background they can keep changing their banks to their liking.

Although newspapers tend to publish more about FinTechs, we believe that BigTechs pose a bigger threat to the banks as they already have a formidable market penetration. Assuming e.g. that 70% of the adult population uses smartphones and Android has 70% market share, which is realistic data, it means that Google has already access to nearly 50% of the population! Imagine the day, when these companies start a definite intrusion in the banking industry, that would immediately reshape banking!

In 2010 no bank took the challenge of FinTechs and BigTechs seriously, but they see the world differently today. The survey of PwC revealed in 2017 that 80 - 90% of decision makers in the financial industry expect disruption in the next five years. Banks are now looking for opportunities to enhance their competitiveness. Many of them found the way to do it in the same place, from where the threat comes: most of the largest banks started to cooperate with FinTechs or invest in FinTechs to incorporate their achievements in their services!

We see the emergence of so called FinTech ecosystems, which means that banks, FinTechs and other service providers integrate their IT systems using APIs and provide joint services to customers (e.g. banks providing personal loan to finance expensive foreign travel). This kind of cooperative access to the banks' services is often referred to with a term: open banking.

And here the 2366/2015 directive of the European Union, better known as PSD2, comes into the picture.

Around 2010 banking professionals expected the financial authorities to regulate FinTechs and somehow protect incumbents from the tiny, innovative but obviously risky competitors. The authorities did exactly the opposite: they started heavily supporting innovation. The FinTech Action Plan of the EBA published in March 2018 declared that authorities will give green light to innovation, they will remove regulatory constraints and support secure cloud services of FinTechs. PSD2 harmonically supports this effort, as PSD2 obliges banks to give access to FinTechs (in PSD2 terminology Third Party Providers – TPPs) to some of the payment services, and therefore enable FinTechs to develop innovative financial services using these access points.

What is PSD2 about?

PSD2 regulates the payment services in the EU. PSD2 has four big pillars:

- creating a single integrated payment market in the Union,
- enhancing competition among incumbents and new service providers,
- ensuring security of payment services,
- and protecting the customers.

The IT challenge of PSD2 is mostly related to competition, as PSD2 allows two types of FinTech companies the Account Information Service Providers (AISPs) and the Payment Initiation Service Providers (PISPs) to provide innovative services by giving access to the IT systems of banks. AISPs, on behalf of the customer, will be able to retrieve account information directly and provide services such as personal budget planning based on this data. PISPs, again on behalf of the customer, will be able to initiate a payment from the client's account to a third party, which is a perfect way to settle e-commerce payments. Banks shall provide access for AISPs and PISPs free of charge and without having any formal contract.

Does this mean that under PSD2 TPPs can access freely the accounts of the clients?! Definitely not. Each of the transactions initiated by a TPP should be authorized via strong client authentication by default, which means that two elements of the three categories (knowledge, possession and inherence) should be used for authentication e.g. a password and one time password from a user possessed token/application together.

The services provided by AISPs and PISPs will compete with banks' mobile banking services. If PSD2 is combined with instant payment (SEPA Instant Credit Transfer), then PISPs can also compete with card schemes (e.g. Visa, Mastercard)

When will the competition begin? The PSD2 Directive itself came into force on 13 January 2018, however the APIs for AISPs and PISPs should be opened later, on 14 September 2019.

PSD2 is a perfect entry point to the world of FinTech ecosystems, as PSD2 opens the first APIs for payment services. But this is not expected to be the end. We believe that within 5 – 10 years banks should open all of their services 24/7.

This is also a turning point for banks to rethink their strategy on how to react to changes. One option is to be merely compliant, which is to give access to services mandated by PSD2. In this case PSD2 will be another costly regulatory project without any return. Another option is to give access to more services (e.g. credits) under new business terms monetizing the access of FinTechs. Going forward, the bank can also decide to establish an own PISP or AISP, all banks have this opportunity under PSD2 without any further authorization. The final option is to join the FinTech ecosystems.

We think that being only compliant is a waste of money. Banks should make business on PSD2 and open banking. And this could be done gradually: first be compliant, and then build further services on top of the APIs that are developed for PSD2.

What are the APIs that are obligatory under PSD2? What should banks do to be compliant?

PSD2 mandates to give access to three payment services under Articles 65, 66 and 67: checking the availability of funds, initiating a payment, and retrieve account information, The details of how these services should be opened is regulated not directly by PSD2, but by a specific RTS namely the RTS on Strong Customer Authentication and Secure Communication (hereinafter referred to as RTS SCA).

RTS SCA demands that banks should have at least one interface that gives access to these services. This interface can be a dedicated interface designed specifically for these services, or banks may give access to the user interface, that is used by their customers (online banking or mobile banking solutions).

The latter type of access has raised huge disputes among banks, FinTechs and authorities. The reason for that, that this kind of access uses so-called screen scraping. Under screen scraping the customers share their credentials (e.g. user name and password) provided by the bank with a FinTech in a controlled environment, and then the FinTech's software logs in the internetbank

pretending to be the customer, and initiates e.g. a payment on behalf of the customer. The security experts of banks consider this kind of an access as huge operational risk. FinTechs consider this type of access as a safety net for them, as 'mean banks' may ruin their services by providing bad dedicated interfaces. This dispute hasn't ended until today!

Most banks prefer dedicated interfaces. In fact, if the dedicated interface is standardized and works well, it is better even for FinTechs. Dedicated interfaces should work exactly at the same quality and service level as the bank's own user interface(s). Banks should serve AISPs and PISPs in a non-discriminative way. If the dedicated interface fails however, then – if the bank is not exempted by the local authorities - banks shall give access to their user interfaces. Most banks try to avoid this case, so they plan to build a good dedicated interface.

But how can we build good APIs?

PSD2 and the RTS SCA are fundamentally technology neutral. It means that regulatory bodies do not define exact interfaces like interfaces for SWIFT, SEPA and card schemes. This is up to banks, and this can be a problem. Interfaces designed and developed freely by banks will differ in each case, which make it hard for FinTechs to connect. Some banks may not have enough knowledge and experience to design a good interface. What to do then?

Here can the so-called API initiatives help. API initiatives are developed by some market organizations, which aim to develop widely accepted, 'good' APIs. The development of these standards is supported by the European Central Bank and the Commission, and they established the API Evaluation Group early 2018 to ensure that technical standards are aligned with the requirements of PSD2 and RTS SCA. The API Evaluation Workgroup has five API Standards in scope: The Open Banking Standard UK, the NextgenPSD2 Standard of the Berlin Group, the French STET, and technical standards of the Polish and Slovak Banking Associations.

What technical standard should banks choose? It is up to them. Theoretically each of these standards are appropriate for them. At the very right moment it seems that most of the banks intend to choose the solution of the Berlin Group. It is also true however that the most advanced API Standard today is the Open Banking Standard UK as it is already in use since 13 January 2018.

One of the problems with these technical standards - except Open Banking Standard UK – that these are still initiatives, which means, that these standards give toolkits, 'building blocks' to create APIs, however they do not give exact specification for the operation. As a result, even though two banks will develop an API under NextgenPSD2, their interfaces will differ. This will raise additional costs for FinTechs.

Why choose a 'big' technical API standard? Well, this gives many advantages. These standards use state-of-the-art technologies, are designed carefully and are based on extensive consultation. Banks may save tremendous time using these instead of developing their own solutions. Another important point is, that regulatory authorities will more likely give exemption from screen scraping as fall-back, if the dedicated API is implemented under a 'big standard'. And this saves cost as well: no need for developments in the internet or mobile bank.

Our company – Online Business Technologies – is a practitioner in PSD2 IT developments. We develop dedicated interfaces for some Hungarian banks under 'big standards'.

What are our practical advices for banks who intend to develop dedicated PSD2 interfaces?

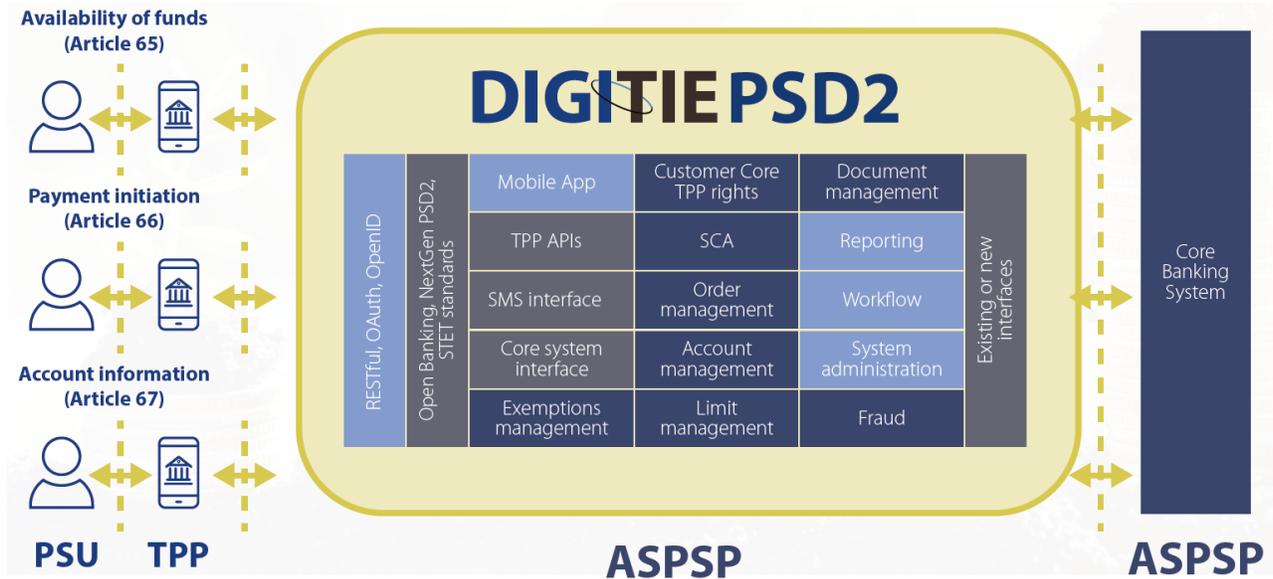
We give the following advices:

1. Take care of timing! PSD2 APIs should be published for testing 6 months prior to live start. If your deadline is 14 September 2019, then you should be ready until 14 March 2019!
2. Use dedicated interfaces! It is a common misunderstanding that the implementation of RTS SCA compliant screen scraping does not require development in the internet bank, so it is a cheap solution. You must develop in either case, as TPPs should be identified and authorized on this channel as well, and if you want to control their activities in the netbank, that requires further features. This is not a problem today, as TPPs are not obliged to identify themselves! In addition to that, screen scraping is messy way to connect your customers and the TPPs and raises further questions related to GDPR.
3. If you use dedicated interface under a 'big standard', you should still apply for exemption from screen scraping as fallback at your local authorities. Local authorities may use different forms, may implement procedures with different deadlines for that!
4. Payment initiation is generally mentioned in the context of e-commerce purchases, when one-time transfer of funds is required. You should not however limit your APIs to this, as you should be able to handle future dated, recurring etc. payments, basically any payment that is currently available to your customers online.
5. Ease the customer journey as much as you can. Give exemptions from strong client authentication when it is possible, however use controls and monitor processes, as in this case the bank is fully responsible for the transaction!
6. Think always strategically: choose a solution, which is not only sufficient to be compliant, but which can be developed further to achieve your business goals.

Our solution for PSD2 and Open Banking - DigiTie

DigiTie PSD2

DigiTie PSD2 enables banks to be compliant with PSD2.



DigiTie for PSD2 serves as a front-layer for banks to manage the requests of TPPs (Third Party Providers) from PSUs (Payment Service Users) 24/7/365 and to transfer the requests to core banking systems of ASPSPs (Account Servicing Payment Service Providers). It is developed to be compliant with any PSD2 standard (OpenBankingUK, NextGenPSD2, STET). The solution uses state-of-the-art technologies like RESTful interfaces, TLS 1.2 for secure connections, OAuth 2.0 and OpenID Connect 1.0 for authentication and authorization, X.509 for certificates. The PSD2 solution provides different options for SCA, such as the classical combination of static password and dynamic password sent in SMS, or highly advanced methods like the combination of using fingerprints and mobile app-based certification. The mobile app for SCA is available on iOS and Android platforms. It is also possible to rely on the existing SCA methods of banks.

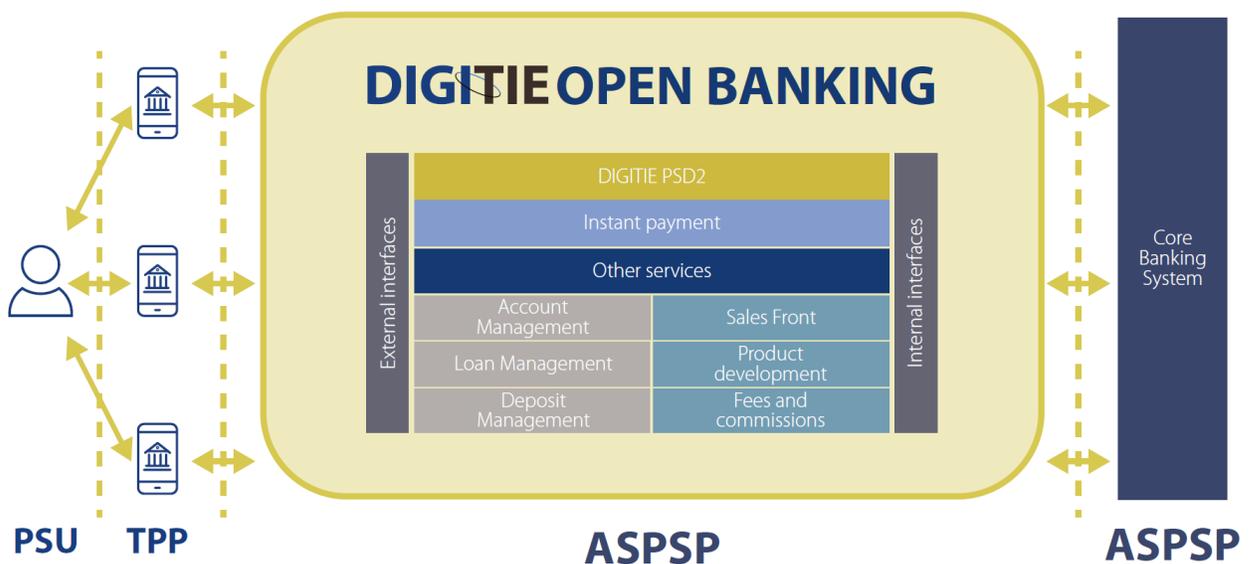
Upon request we can connect DigiTie for PSD2 to core banking systems using either existing bank e-channel (e.g. Internet Banking) interfaces or a new, customized interface. In the case of existing interfaces only minor development is required from the bank.

The solution is able to handle exemptions from SCA, like low-value transactions, trusted beneficiaries etc. In order to ensure secure operation, it also includes limit handling, and as part of the Fraud component offline confirmation etc. For more information please [contact us!](#)

DigiTie Open Banking

DigiTie for PSD2 helps you to be compliant with PSD2 regulations and gives you the opportunity to extend the solution with further services later (see on the next page).

While DigiTie for PSD2 opens services necessary to be compliant with PSD2, **DigiTie for Open Banking** can open up additional services to join FinTech ecosystems. The options are endless in this area, which might include 24/7 loan disbursement based on applications submitted by FinTechs, or creating deposit accounts based on the request of PFM (Personal Finance Management) solutions. DigiTie for Open Banking includes all the functions of DigiTie for PSD2 and provides additional features to help the cooperation with FinTechs (see the picture below), which features can also be easily integrated with an already existing API management software to provide the business logic layer.



These features include custom tailored Open APIs for FinTechs under RESTFUL or other technologies (e.g. SOA web service). While DigiTie for PSD2 opens only a few payment services free of charge, DigiTie for Open Banking makes other banking services (e.g. loans, deposits) available under agreed business terms.

In order to support these services 24/7, DigiTie for Open Banking provides core banking functionality for time periods when main systems are down, serving as a shadow core system. These new services will be available for agreed fees that can be managed by the Fees and commissions module. New channels might require the selling of new products. This is the point where the Sales front and the Product Development modules can help. For more information please [contact us!](#)

About Online Business Technologies

We are an innovative IT development company specialized in banking technology since 1989.

We provide a wide spectrum of highly flexible solutions necessary for banks to go digital, including modules to join FinTech ecosystems (e.g. PSD2, open APIs, instant payments), e-channel solutions, and state-of-the-art core banking modules to support front- and back-office operations (including account management, credits, deposit, GL etc.)

Our modules can be combined freely, we are able to deliver a standalone solution for a specific task (e.g. PSD2), or a series of modules covering the complete value chain (e.g. credit processes).

Our operations in numbers:

- Nearly 2500 years of banking, financial software development experience
- Our solutions are used by more than 8000 users
- Our solutions are used in more than 1000 branches by our customers
- Our partners serve more than 3 million customers with our solutions

OUR VALUES

UNIQUE COMPETENCE Our experience and professional knowledge in the field of credit institutions and finance is unique among IT providers.

CUSTOMIZED SYSTEMS With the help of our unique development and version management technology, our modules can be customized and implemented rapidly. We also have extensive experience in realizing unique functionality.

HIGH QUALITY Owing to the quality control system covering all of our activities and to the controlled development processes, our systems are of high quality and reliability.

QUICK RETURN Fast launching of developments that save customer resources, increased efficiency in management, flexible response to market trends – these all result in our customers gaining advantage in the rapidly changing financial market.

For more information check out our website: www.online.hu and [contact us!](#)

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