Product documentation

Digital Banking - Public API

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| Digital Banking - Group APIs R19.1 | 25.07.2018 | Crealogix |
| NextGenPSD2 XS2A Framework Implementation Guidelines v1.2 | 25.07.2018 | Berlin Group |

# Introduction

Open banking refers to open APIs which allow 3rd party developers to build application and/or services around products and services offered by financial institutions.

Financial institutes and 3rd parties gain thereby the opportunity to create new, joined offers to their customers. Banking itself can evolve to be more comfortable, easier and customer-friendly. With CLX public APIs banks have the possibility to offer their customers such benefits.

Public APIs on their own are of limited use. Only combined with a bank standard security solution such public interfaces can be accessed by 3rd parties. API management and -store are the features which allow an active approach on cooperation with 3rd parties.

Additionally, the EU has declared with PSD2 a defined set of use cases which need to be supported by banks operating within the European Union. These use cases contain currently the following ones:

* Account Information Service
* Payment Initiation Service
* Availability of Funds

Supplementary, PSD2 also defines concepts regarding authentication, authorization and consent handling.

## Purpose of this document

This document describes CLX’s solution for public APIs and PSD2 based on DBAN and CLX’ digital banking hub.

## Scope

This document describes public APIs, with understanding public APIs as general solution, which doesn’t require 3rd party specific integration efforts. Therefore, public APIs rely on defined standards (where available) for business functionality and authentication/authorization.

For cases of tight integration and intense interaction with a 3rd party or specific customer use cases Crealogix’ Group API might be better suited. The scope of the Group API is defined in the corresponding storybook and not part of the Public APIs.

# CLX public APIs

## Domain Assets

### Account information

APIs delivering information for

* Accounts including balances
* Transactions

## Domain Payments

### Bulk payment transactions

* creditTransfer with PAIN.001
* statusReport with PAIN.002
* Cash management CAMT.053

# PSD2

The PSD2 implementation of Crealogix follows the NextGenPSD2-guidelines defined by Berlin Group. Berlin Group as harmonization organization has released a set of guidelines and interface definitions, so that banks (ASPSP = Account Servicing Payment Service Provider) provide a common interface for 3rd parties (TPP = Third Party Provider) to act as delegate of the consumer (PSU = Payment Service User).

## XS2A interface

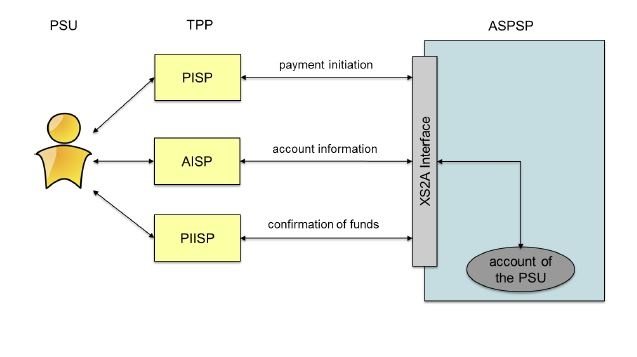


Figure 1: XS2A interface scope

The XS2A interface supports different services. It is distinguished between core services and extended services. According to PSD2 requirements an ASPSP must support all core services at its XS2A interface. The ASPSP is free to decide which extended service it wants to support in its implementation of the XS2A interface in accordance with its own market needs.

## Core services

Every implementation of the XS2A interface based on the specification of the Joint Initiative shall support the following core services: PIS, AIS, FCS.

For each of these core services, the specification [XS2A-ImplG] of the Joint Initiative defines a set of request/response messages and the corresponding data elements. These messages and data elements are exchanged between the TPP and the ASPSP at the XS2A interface. A TPP which has the necessary authorisation and role can use these services to access the XS2A interface of an ASPSP. No further contractual relationship between the TPP and the ASPSP is needed.

## Use Cases

Berlin Group (Standard)

The current version of the XS2A interface specification supports the following use cases for the core services:

| **Use Case** | **Service** | **Role of the TPP** | **Support optional** | **PSU directly involved** |
| --- | --- | --- | --- | --- |
| Initiation of a single payment | Payment initiation service | PISP | no | yes |
| Initiation of a future dated single payment | Payment initiation service | PISP | yes | yes |
| Initiation of a multiple/bulk payment | Payment initiation service | PISP | yes | yes |
| Initiation of a recurring payment | Payment initiation service | PISP | yes | yes |
| Establish account information consent | Account information service | AISP | yes | yes |
| Get list of reachable accounts | Account information service | AISP | yes | no |
| Get account details of the list of accessible accounts | Account information service | AISP | no | no |
| Get balances for a given account | Account information service | AISP | no | no |
| Get transaction information for a given account | Account information service | AISP | no | no |
| Get a confirmation on the availability of funds  (Request amount of money + account), Server checks if PSU has money available incl. disposition | Funds confirmation service | PIISP | no | no |

### AIS – Account information services

### PIS – Payment initiation services

### FCS – Confirmation of funds

### Consent handling and TPP processing

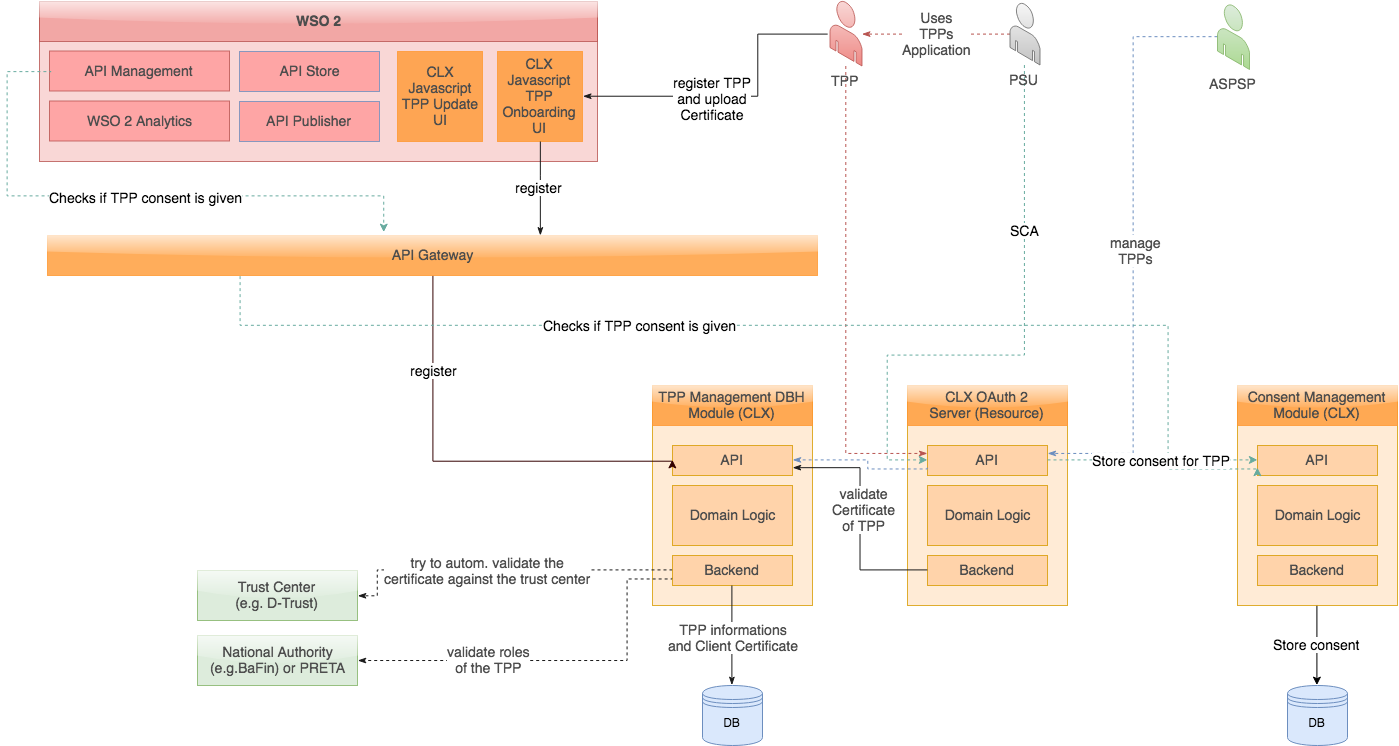


Figure 2: TPP access validation

# API Management

With an API management solution monitoring, documentation and lifecycle management of APIs are supported.

By monitoring the access of interfaces, the bank can measure load and performance and might derive actions from that. It also allows to put monetarization schemes into place for specific APIs

API lifecycle management allows:

* Creation of new APIs
* Versioning of APIs
* Publishing of APIs
* De-releasing APIs

CLX uses WSO2 as API management solution. This product can be deployed and used standalone to even integrate interfaces besides CLX banking.

# API Store

The API developer store helps 3rd parties to develop their solution against the available APIs by offering sandbox implementations.

# General concepts

## ID encryption

Technical IDs are not obfuscated but encrypted. ID encryption password is using 256 bit AES algorithm and can be configured using property:

ch.clx.config.common.core.idencryption.DEFAULT.password=KJHghjshguzgJHGZIUTU58jkZJIUTZIUH

This property is optional. If not added into eb.\*properties file than the password from above for product will be used. Keyword DEFAULT in property name can be replaced with tenant mnemonic e.g. SGKB. That is part of multitenancy configuration

# Glossary and abbreviations

The following table contains the main terms and abbreviations used throughout this document:

|  |  |
| --- | --- |
| AISP | Account information service provider |
| ASPSP | Account Servicing Payment Service Provider |
| PISP | Payment Initiation Service Provider |
| PSP | Payment Service Provider |
| PSU | Payment Service User |
| SCA | Strong Customer Authentication |
| TPP | Third Party Provider |
| Status Report | Message from the financial institution to the customer about the execution or rejection of payment orders. |
| XML | Extensible Markup Language (see also <http://www.w3.org/XML>) |
| XS2A | Access to accounts |