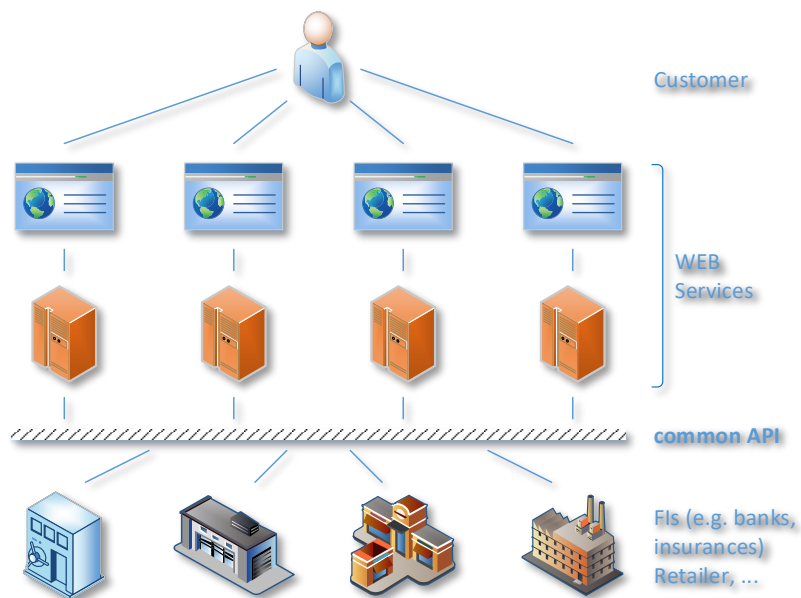


SFTI - working group 'Common API'

Main Document



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This API specification for automatically usable multi-company-capable banking and insurance APIs (hereinafter: Common API) was developed on behalf of *Swiss Fintech Innovations* (SFTI) for the Swiss banking and insurance industry.

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About SFTI

Swiss Fintech Innovations (SFTI) is an independent association of Swiss financial institutions committed to drive collaboration and digital innovations in the financial services industry. For more information about *Swiss FinTech Innovations*, please refer to <http://www.sfti.ch>.

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1. Preface

In 2016, the newly founded industry association *Swiss Fintech Innovations (SFTI)*¹ set up a working group to address the topic of a *common API* specification. The aim of this working group was to develop an openly accessible specification for APIs in finance - i.e. banks and insurers - for Switzerland.²

The main *driving forces* are:

- On the customer side: Convenience, digitalization and democratization of customer interaction.
- On the regulatory side: Constraints on national (e.g. finma), European (e.g. PSD2) and world scales (e.g. AML).

1.1 Current Situation

Essential findings for *banking*:

- Several regional as well as international API standards exist.
- All of the more or less well established standards are open.
- At least payments are covered by each of these API standards.

Essential findings for *insurances*:

- Nothing comparable to the API standards for banking exists yet.
- Several core objects of insurance business models are similar to banking ones.
- Some Swiss insurances already have described their reference business model in detail.

1.2 Stakeholders Views

Although the discussions about common APIs arose mainly with with fin- and insurtech startups in mind, other stakeholder groups may profit as well. The following list gives a quick overview about their needs and concerns:

- **Customers**
Needs: Convenience, digitalization and democratization of customer interaction.
Concerns: »Will I retain control about the use of my personal data?«
- **Financial institutions, retailer, ...**
Needs: Cost case - e.g. internal optimizations, or usage of white labelled frontends.
Growth case - e.g. availability of new distribution channels, products, types of customer interaction.
Efficiency case - e.g. fast integration of services.
Concerns: «Will we retain control about our revenue streams?»
- **Software supplier**
Needs: Raising efficiency in development of customer specific apps/services.
Concerns: «How to deliver more control to FIs without losing them?»
- **FinTechs**
Needs: Ease of access to large volumes of customer's information at financial institutions, retailer, ...
Concerns: «Which sustainable business models emerge?»

¹ *Swiss Fintech Innovations* is an independent association of Swiss financial institutions committed to drive collaboration and digital innovations in the financial services industry (www.sfti.ch).

² In this specification document, the term «finance» shall always include banking as well as insurance.

- **Regulating authority**

Needs: Compliance with constraints on national, European and world scales.

Concerns: «Will there be a necessity of further constraints?»

All these points of view shall best possibly be taken into account by the present work.

1.3 Primary Objectives

The primary objectives of a common API specification are, on the one hand, to simplify existing digital processes and to accelerate the implementation of new digitization processes. On the other hand, the open API implementation is intended also to be used bank-internal (cross-system) as well as between partners (B2B).

1.4 Targets

Primary targets of establishing a *common financial API* standard are the simplification and the speed-up of processes with reference to digitalization. This applies to the assignment of different IT systems at the same company as well as between IT systems of different companies, and in particular with regard to the implementation of new processes.

1.5 Open vs. Common

In the present context, the term *open* stands for an open standard of a shared *Common API Specification for Banking & Finance*, which may be implemented by any interested party. The term *open* does not mean that business functionalities implemented by the APIs may automatically be used for free, nor does it reflect a concession or commitment by any involved financial institution even to provide it.

In particular, it is solely in the hands of each company at what conditions it makes the API accessible to third parties.

1.6 Vision

Two points were identified to make up the vision of this working group:

- **Create a common standard**, meaning that Swiss banks and insurances are committed to a single API standard.
- **Support independent implementations**, meaning that each provider is free to implement the API with appropriate means, as long as the results fully comply with the API standard.

1.7 Release-based Approach

The present specification is strictly release-based, i.e. each entity described herein has a set of metadata to describe its life cycle status.

1.8 Documentation

The API is documented by the use of up-to-date technologies to ease its use by software developers. Therefore, the complete documentation of the API specification is also available electronically, based on Swagger files.³

1.9 Sandbox Environment

To further ease the proliferation of the *common finance API* specification, *SFTI* will ensure that an appropriate sandbox environment is available for testing. Details will be published as soon as this environment is available.

³ [Swagger](#) is a specification for defining the interface of a REST web service. The Swagger specification nowadays is also known as the OpenAPI Specification.

2. Branch specific Aspects

2.1 Banking APIs

Due to the more manageable situation in banking (most Swiss banks use core banking software from a small number of software providers), the working group has started with this sector. The insurance sector shall follow as soon as the first release of the banking API specs is released.

In 2017, this working group decided to actively involve the most important vendors of core banking software in their work. Together with specialists from *Avaloq*, *Finnova*, *Finstar* and *Temenos*, the work on the API specification for banks was intensified.

These four vendors together cover around 75% of all Swiss banks. Through this cooperation SFTI ensures that economies of scale can be used to the best possible advantage for all member banks, as well as for any other bank using software of the four providers mentioned above (and of course also for the software providers).

From a conceptual point of view, SFTI tries to integrate the work result of existing standardization initiatives in the best possible way. For example, in the field of payments, the recommendations of the *Berlin Group*⁴ have served as an appropriate basis for our work referring to Payments.

On the organizational side and to ensure proper alignment, SFTI's workgroup regularly exchanges information with other Swiss associations and initiatives that address API concepts in the fields of finance. This also applies to cooperation with SCSF (Swiss Commission for Financial Standardisation, a subsidiary of the Swiss Bankers Association).

2.2 Insurance APIs

Most Swiss insurance companies run backend software they've developed inhouse. Therefore, developing a common API layer for this sector is much more demanding than at the banking side.

On the other hand, these software systems are usually well documented, so there's a good chance to derive a common rationale from those sources. The biggest challenge in this project is the significant differences in the product worlds. On the other hand, this should affect the modelling behind the APIs much more than the APIs themselves. So the chances are seen as good to create a common API layer for insurances, too.

⁴ The *Berlin Group* is a pan-European payments interoperability standards and harmonisation initiative with the primary objective of defining open and common scheme- and processor-independent standards in the interbanking domain between Creditor Bank (Acquirer) and Debtor Bank (Issuer) (<https://www.berlin-group.org>).

3. Documentation Structure

3.1 PDFs

The following list provides an overview of the documentation structure with regard to the PDFs provided:⁵

Document name	Content
[01.Main_Document.pdf]	This document acts as an envelope for all documents that together make up the "Common API" specification. Here you find basic descriptions of all documents, including name, release and a short overview of their contents.
[02.Basics.pdf]	This document holds the guidelines that form the basis for all parts of the API specification, such as character sets, data types and the endpoint syntax.
[03.API_Payments.pdf]	API documentation and Implementation guideline for the business domain "Payments".
[04.API_Accounts.pdf]	API documentation and Implementation guideline for the business domain "Accounts".
[99.Security.pdf]	This documents holds any security relevant principles and guidelines.

3.2 Swagger Files

Furthermore, each PDF describing a distinct API is supplemented by a corresponding Swagger file.

The contents of PDFs and Swagger file are complementary, i.e. the Swagger files themselves are not documented in the PDFs.

4. Versioning Concept

The API documentation of any newly covered business domain starts at version 1.0. New releases of all API documentations will be published on an annual basis. This means that there is a clear connection between the release and the year it is published and therefore also the year it is valid for.

5. Document Versions

The following list contains the current versions of the individual documents.

Document name	Version	Date
[01.Main_Document]	v0.03	05.09.2018
[02.Basics]	v0.05	05.09.2018
[03.PaymentAPI]	v0.04	05.09.2018
[04.XS2AAPI]	v0.01	05.09.2018

⁵ Remark: This table will be updated whenever appropriate, e.g. each time another business domain is covered by its API specification.

6. Appendix

6.1 Existing Standards in Banking

Term	Description
HBCI	<i>Home Banking Computer Interface</i> , is an open standard developed in Germany by different banks to cover the areas electronic banking and customer self-services.
finTS	<i>Financial Transaction Services</i> , is a further development of the HBCI standard.
PSD	<i>Payment Services Directive</i> , is a EU directive to regulate payment services and payment service providers all over the EU /EEA region. ⁶
OFX	<i>Open Financial Exchange</i> , is a standard mainly developed in the USA by commercial companies to cover the exchange of financial data and to execute financial transactions.

6.2 Abbreviations

Term	Description
ASPSP	The <i>Account Servicing Payment Service Provider</i> is the service provider that maintains payment accounts for customers. Usually this is the bank.
BIC	Bank Identifier Code
IBAN	International Bank Account Number
ISR	Inpayment Slip with Reference Number (or <i>ESR</i> in Swiss German)
PIS	Payment Initiation Services
PSU	Payment Service User (customer)
TPP	Third Party Provider
XS2A	Access to Account

6.3 IT related terms

Term	Description
API	An Application Programming Interface (API) identifies an interface provided by a soft-ware system to integrate this system into other programs. In other words: An API provides methods to access (and modify) data objects of the underlying application (in contrast to a Grafical User Interface (GUI), which denotes the interface between an application and its users).
API standard	An API standard defines the objects of the underlying application which are accessible through the API, as well as the methods to access/modify these objects. Furthermore, it consists of an agreement on the message protocol which is used for communication.
REST	Representational state transfer (REST) or RESTful web services are one way of providing interoperability between computer systems on the internet. REST-compliant web services allow requesting systems to access and manipulate textual representations of web resources using a uniform and predefined set of stateless operations. Other forms of web service exist, which expose their own arbitrary sets of operations such as via WSDL and SOAP. 'Web resources' were first defined on the World Wide Web as documents or files

⁶ EEA stands for European Economic Area (Europäischer Wirtschaftsraum / Spazio economico europeo / L'Espace économique européen)

Term	Description
	identified by their URLs, but today they have a much more generic and abstract definition encompassing every 'thing' or entity that can be identified, named, addressed or handled, in any way whatsoever, in the web

6.4 Contributors

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