

The OneMoney - MPP

“MoneyOne Partners Program”

Enabling secure, private sharing of data between
consumers and enterprises

FinTech Products and Solutions India Pvt Ltd



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Overview

At OneMoney, India's first RBI-licensed Account Aggregator (AA), we believe in promoting data democracy. The twin goals of protecting privacy of consumers, while enabling free sharing of data between consumers and enterprises, can be achieved efficiently and at scale, by implementing the AA framework and further, by extending the same principles to serve as a basis for all private data-exchange interactions.

The AA framework has its foundation on the concept of "consent". The AA framework allows enterprises to seek consent from consumers and directly access their data through the AA network; it also enables consumers themselves to receive their own data, for personal use, by "giving consent" to the Account Aggregator's front-end applications. This provision of the AA framework has been implemented by OneMoney as "OneMoney Private Data Access" feature.

MPP is a data governance platform (owned by Fintech Products and Solutions India Pvt. Ltd. the parent company of OneMoney) that facilitates secure sharing of data by a user who has access to her own data. The user might have received her own data either through the AA framework, or by other means such as fetching from a custodian of her data, e.g., a Credit Bureau, Digilocker etc. After the user gains control and access to her own data, MPP empowers the user with the ability to share such data with partner enterprises of her choice. Such data sharing is done privately by the user directly with her chosen enterprise and does not involve usage of the Account Aggregator network.

MPP also integrates with multiple other data and information service providers to fetch customer's data which is outside the ambit of AA framework. Examples of such data include credit scores and reports from credit bureaus, and telecom data from service providers. For getting user's data from each such information provider a separate consent will be sought from the user. The consent structure will be according to the respective information service provider's consent framework. Such data will be fetched by MPP from the respective information service providers based on explicit user consent in an encrypted manner. MPP will share the encrypted data with the enterprise partner once they are available.

This is a feature enabled on enterprise partner mobile application via a SDK, installed by the user on her device only. MPP data governance platform enables stringent security and privacy guidelines to be implemented to facilitate such private sharing of data by the user. Specifically, MPP implements the concept of "consent" as a basis for the interaction between a user/consumer and the partner enterprise. Although law and regulation presently do not mandate security and privacy provisions to be applied to private sharing of data by the principal/user/consumer of the data, MPP platform proactively implements both the RBI-defined AA framework and the proposed Personal Data Protection Bill 2019.

This facility is structured as the OneMoney - MPP "MoneyOne Partners Program" (MPP) and is currently exclusively available to OneMoney AA users. The phrase "MoneyOne Partners" refers to partner enterprises chosen by the user/consumer, to share her data with.

The "MoneyOne Partners Program": How does it work?

The MPP (MoneyOne Partners Program) facility involves three steps:

1. Through the OneMoney AA mobile application, a consumer can request access to her own data. The OneMoney AA mobile application gets "consent" from the consumer, decrypt and make usable data available to the consumer. The periodicity, validity, and data life of all such data requests is governed by the "consent" artefact that the consumer approves and provides to the OneMoney AA mobile application. All decryption of data is always done on the device that the app is installed on. No decryption of data is done on OneMoney servers, in accordance with RBI guidelines.
2. Through the MPP SDK (embedded either into the OneMoney AA mobile application or into an enterprise's mobile application), the consumer assigns various conditions of consent (purpose, data life, etc.), governing the partner enterprise's access to the data. The consumer assigns necessary permissions for the data to be encrypted by using the private key of the partner enterprise and automatically accessed by the latter.



User journeys for the above could start either from a partner enterprise's mobile applications or from OneMoney's mobile application. In either case, the systems involved will be the following:

1. MPP off the self service - a service that manages product details and associated user's private consent parameters. It also

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stores the lifecycle of each private consent artefact approved by a user, while sharing data with the enterprise.

2. MPP SDK - a mobile SDK that can be dropped into a partner enterprise's mobile applications. The SDK presents screens that facilitate:
 - i. Viewing of MPP consent between the consumer and his enterprise partner to fetch FI data and third party data to approve or reject the same.
 - ii. A redirection/invoking of OneMoney mobile application screens for registration and/or private data access
 - iii. Assignment of user's private consent conditions, to govern the partner enterprise's usage of the consumer's data

Note: To facilitate discovery of partner enterprises by the user on OneMoney app itself, the MPP SDK is also embedded into OneMoney's mobile apps. Such interactions will however be detailed later and are not elaborated upon further here.

3. OneMoney Private Sharing mobile SDK/ application - a mobile SDK/application screens that connects to OneMoney service. It presents screens that facilitate:
 - i. Registration, discovery and linking of user's accounts on OneMoney
 - ii. The "Private Data Share" feature – this allows users to fetch, save and share data with their preferred partner.

Note: The "Private Data Share" feature involves decryption and encryption of data and secure storage of key material, required for the decryption. Such security features can only be implemented through a mobile application and not through a web application. The OneMoney Private Sharing SDK is therefore a mobile- only SDK.

The user journeys involving these three systems could involve any of the following personas: The term "enterprise" below describes the enterprise interested in getting access to the user's data in order to offer a tailored service.

1. Sumith, a user of an enterprise's app and also has an existing OneMoney profile. Sumith starts his journey on the enterprise app and gets redirected to OneMoney during his journey.
2. Rakesh, a user of an enterprise's app but does not have an existing OneMoney profile. Rakesh starts his journey on the enterprise app and gets redirected to OneMoney during his journey.
3. Neethi, a user of OneMoney and is also a user of the enterprise's app. Neethi starts her journey on the OneMoney app and is able to share her data with the enterprise, through the OneMoney app itself.
4. Neha, a user of OneMoney but does not have an account with the enterprise. Neha starts her journey on the OneMoney app and discovers the enterprise on the OneMoney app through the "MoneyOne Partners" feature. She is then able to share her data with this enterprise through the OneMoney app itself.



Given below is a schematic that outlines the journey for Sumith (user journey 1, from the list above). User journeys for the remaining personas will be detailed later.

My Product Partner Limited App

Hi, Sumith

☒ Get the best of our services by sharing your data of savings & current accounts, term and recurring deposits, mutual funds etc. with us privately and securely, by giving us consent to fetch your data from OneMoney, an RBI licensed account aggregator.

☒ Provide your consent to get your credit score and information report directly from Credit Bureau. Once the credit score and report is accessed, we will share directly with your product provider partner.

☐ Provide your consent to get your information directly from other providers of your data, e.g. telecom, utilities etc. Then based on your private consent we will share the accessed data with your product provider partner to enhance the quality of decision in this transaction.

Proceed

My Product Partner Limited App

< Consent Details

These consent details will be used to fetch your financial data from OneMoney Account Aggregator as well as from Credit Bureau.

Purpose

I would like to share my data with My Product Provider Partner App for the following purpose and no other

Purpose

Single view dashboard of finances

Data Range

Please fetch data of the time period mentioned below

Start Date

01 Oct 2018

End Date

01 Jan 2020

Frequency of Data Pull

Please fetch my data periodically, as per the frequency below

Years

Months

Days

Infinite

-

3

+

3 times (once a month)

Consent Validity

Data fetches are allowed only within the time period mentioned below. Any data request placed after this period will be automatically rejected.

Start Date

01 Oct 2018

End Date

01 Jan 2020

Data Life

We will use your data only for the duration mentioned below. All data will be deleted after this duration.

Delete after

1 year from fetch data

Approve

Reject

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My Product Partner Limited App

< Consent Details

These consent details represent your consent to fetch data from your other financial / non financial custodians of data.

Purpose

Potential products / services derived by customer.

☐ Data Type 1
☐ Data Type 2
☐ Data Type 3

Data Range and Data Life

☐ Data Type 1 – Data Range and Data Life
☐ Data Type 2 – Data Range and Data Life
☐ Data Type 3 – Data Range and Data Life

Continue

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My Product Partner Limited App

< Consent Details

These consent details represent your consent to fetch data from your other financial / non financial custodians of data.

Purpose

Potential products / services derived by customer.

☐ Data Type 1

☐ Data Type 2

☐ Data Type 3

Data Range and Data Life

☐ Data Type 1 – Data Range and Data Life

☐ Data Type 2 – Data Range and Data Life

☐ Data Type 3 – Data Range and Data Life

Continue

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My Product Provider Partner App

Welcome to OneMoney Private Data Share!

OneMoney can help you get your data securely to your device and share it from your own device. To help you share your data privately, please give us permission to

Folder
Create a folder on your device to securely download your files into it.

Location
Inform your partner about the location of your downloaded data and the contents.

Encryption Key
Encrypt your data with a private key that only your enterprise partner has access to.

I agree to share my data securely

Deny

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My Product Provider Partner App

Thank you for giving your consent to My Product Provider Partner App.

Based on your consent, to Credit Bureau, MPP will fetch data directly and share your fetched data with your enterprise partner.

Please allow My Product Provider Partner App to access the encrypted financial data from OneMoney AA.

Allow Access & Proceed to OneMoney AA

Deny

Powered by moneyone

My Product Provider Partner App

Thank you for giving your consent to My Product Provider Partner App.

Based on your consent, to Credit Bureau, MPP will fetch data directly and share your fetched data with your enterprise partner.

Please allow My Product Provider Partner App to access the encrypted financial data from OneMoney AA.

Allow Access & Proceed to OneMoney AA

Deny

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My Product Provider Partner App

Sign In

OneMoney User ID
Sumith

Pin Number
4 5 6 8 9 1

Sign In

Don't have an account? [Sign Up](#)

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My Product Provider Partner App

Welcome to OneMoney Private Data Share!

OneMoney can help you get your data securely to your device and share it from your own device. To help you share your data privately, please give us permission to

Folder
Create a folder on your device to securely download your files into it.

Location
Inform your partner about the location of your downloaded data and the contents.

Encryption Key
Encrypt your data with a private key that only your enterprise partner has access to.

I agree to share my data securely

Deny

Powered by onemoney

My Product Provider Partner App

Welcome to OneMoney Private Data Share!

OneMoney can help you get your data securely to your device and share it from your own device. To help you share your data privately, please give us permission to

Folder

Create a folder on your device to securely download your files into it.

Location

Inform your partner about the location of your downloaded data and the contents.

Encryption Key

Encrypt your data with a private key that only your enterprise partner has access to.

I agree to share my data securely

Deny

Powered by



My Product Provider Partner App

Private Data Share

Purpose

I would like to use data for the following purpose

Purpose

Customer Spending Patterns, Budget...▼

Accounts

Include data from the following accounts

Savings Accounts [Add Accounts](#)

State Bank of India Savings XXXXXX8977

☒

IndusInd Bank Savings XXXXXXXXXXXX6325

☐

Fixed Deposit Accounts [Add Accounts](#)

State Bank of India Fixed Deposit XXXXXX6318

☒

Insurance Accounts [Add Accounts](#)

Types of Data Requested

Please fetch the following components of account data

☒ Profile
 ☒ Balance
 ☐ Transactions

Data Range

Please fetch data of the time period mentioned below

Start Date

01 Oct 2018

End Date

01 Jan 2020

Frequency of Data Pull

Please fetch my data periodically, as per the frequency below

Years Months Days Infinite

- 3 +

3 times (once a month)

Consent Validity

Data fetches are allowed only within the time period mentioned below. Any data request placed after this period will be automatically rejected.

Start Date

01 Oct 2018

End Date

01 Jan 2020

Data Life

I allow OneMoney app to fetch my data only for the duration mentioned below. Any data request placed after the period will be automatically rejected.

Delete after

1 Year from fetch data ▼

Approve

Reject

Powered by



My Product Provider Partner App

Private Data Share

Purpose

I would like to use data for the following purpose

Purpose

Customer Spending Patterns, Budget...▼

Approve Consent

Please Enter OTP

3 4 5 6 8 9

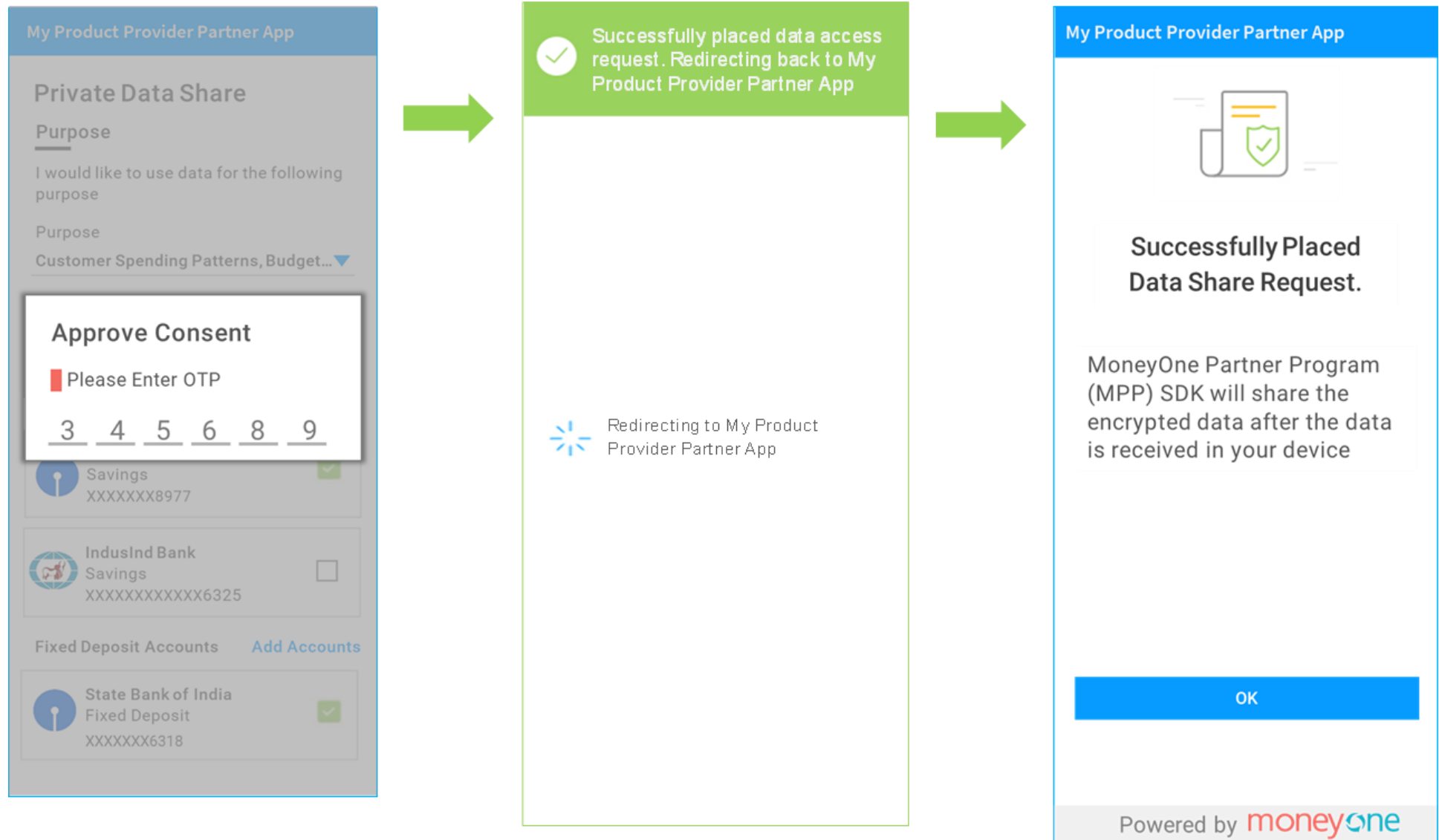
Savings XXXXXX8977

IndusInd Bank Savings XXXXXXXXXXXX6325

Fixed Deposit Accounts [Add Accounts](#)

State Bank of India Fixed Deposit XXXXXX6318

☒



Data Privacy Features

Data Privacy is enforced through two mechanisms:

- i. The user's "private data share" feature on OneMoney mobile application is governed by a consent artefact that determines conditions of consent given to the app for fetching the data. Purpose and collection limitations are enforced, in accordance with the RBI guidelines, similar to how they would be, in the case of an enterprise directly seeking data from the AA network. Further, the financial data fetched from OneMoney AA and other data fetched from credit bureaus, telecom providers etc. will be deleted from the MPP server immediately after they are shared with the enterprise partner.
- ii. The user's "private data sharing" mechanism through MPP, is governed by a consent artefact that determines conditions of consent given to the enterprise. The structure of this consent artefact is similar to that defined within the AA framework. Purpose limitations, collection limitations, data life are enforced through this consent artefact.

Important Note: This consent artefact represents consent given directly by the user to the enterprise, is outside the AA framework. It is independent of, and separate from, the consent artefact governing the interaction between the user and OneMoney mobile application.

Data Security Features

1. Data-in-transit security, governing the data fetch by OneMoney mobile application, is strictly in accordance with the security specifications laid by RBI within the AA framework. It involves the following:
 - i. API keys - for the OneMoney service to authenticate and authorise the OneMoney mobile application
 - ii. Data Signature - for non-repudiation and data integrity checks while information is being exchanged in API requests and responses between the OneMoney service and the OneMoney mobile application
2. Data encryption - key material for every data fetch is generated within the OneMoney mobile application, using the Diffie Hellman Key Exchange Mechanism, in accordance with the specifications of the AA framework. Decryption of data is done on the device, using keys generated and stored securely within the OneMoney mobile application. Decryption of data is not done on the OneMoney back-end servers
3. Data at rest storage within MPP server, till the time it is provided to enterprise partner of the consumer will be also be encrypted.
4. Data-in-transit security, is also enforced through an agreement of the mechanism to be used, between MPP data governance platform and the enterprise.
5. AES256 encryption is employed, for both data-at-rest and data-in-transit.

Technical Specification

Introduction

The MPP (MoneyOne partners program) software system facilitates gathering financial, credit bureau, telecom and other data from different data sources and share the data to enterprises securely with customer approval.

The data storage of financial data fetched from OneMoney AA will always be stored and shared from user's mobile device. Data from bureaus and other data sources will be directly fetched by MPP server from different sources and shared.

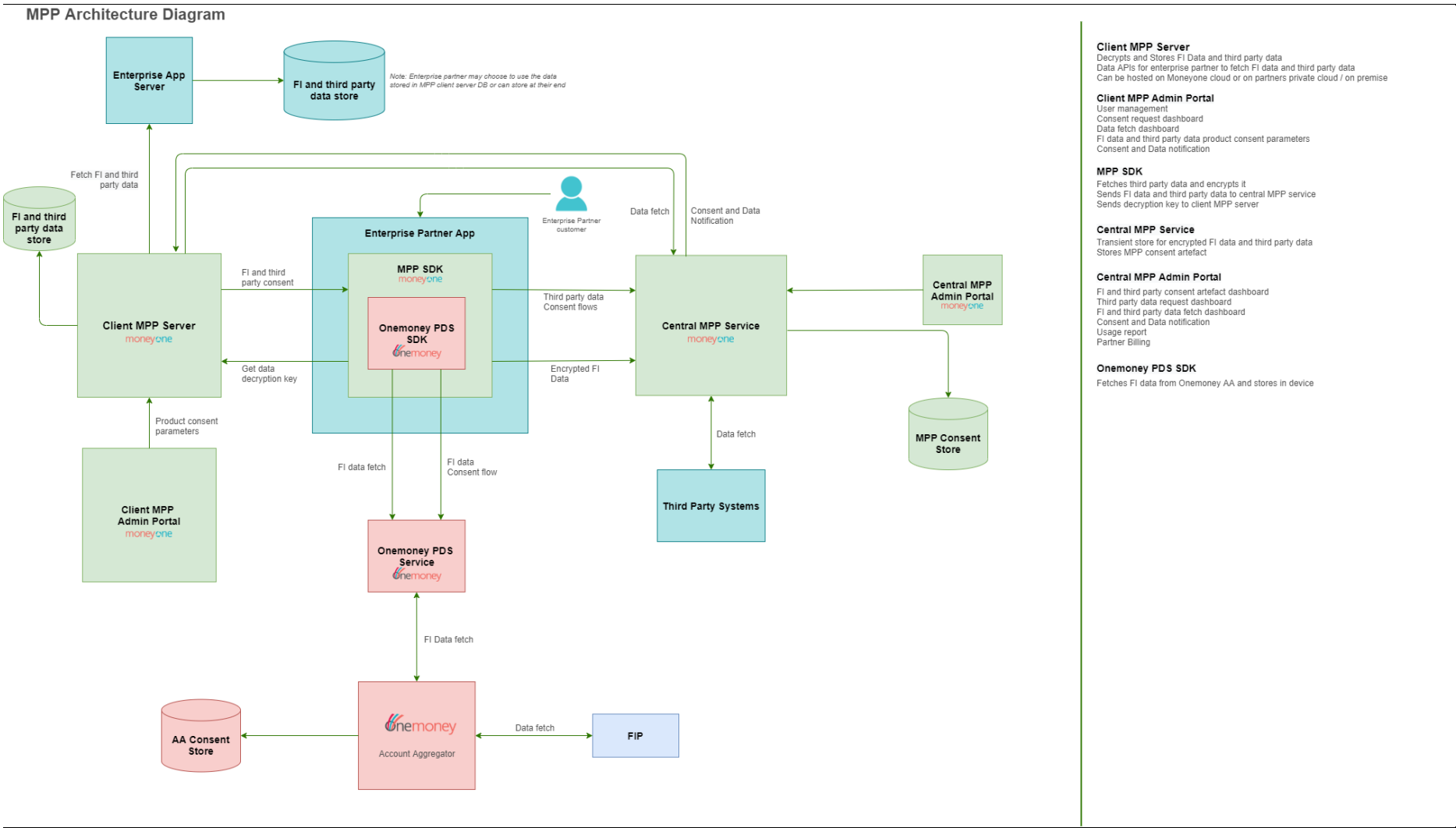
MPP software consists of different services to support the consent management, data retrieval and sharing.

Please find the high-level architecture in the below section.

High level Architecture

The MPP (MoneyOne Partners Program) acts as data sharing intermediary and helps customers to share their financial data with their partners privately and securely fetched from OneMoney account aggregator based on explicit self-consent and from other data providers like credit bureaus, telecom operators etc. based on specific services (API) provided by respective data providers. The software system needs sophisticated architecture to manage all consents, and specific set of APIs to connect to third party systems that will facilitate secure and consented sharing of different kinds of financial and non-financial data.

The high-level architecture diagram is given below which depicts different service components and interactions with third party systems.



The customer first logs in into enterprise mobile app and interacts with embedded MoneyOne Partner Program SDK for requesting data from OneMoney through the OneMoney private data share SDK as well as other third party data service providers. The MoneyOne Partner Program SDK also asks permission from customer to encrypt the fetched data with the private key of customer's partner which is known only to the customer's partner. The MoneyOne Partner Program mobile client interacts with MoneyOne Partner Program backend service through APIs. Similarly the OneMoney private data share client interacts with OneMoney private data share backend service. User also interacts with OneMoney private data share SDK to provide his self-consent to fetch his financial data from OneMoney account aggregator as well as gives permissions for the following:

- Create a folder in the user's device where the data fetched from OneMoney account aggregator will be stored.
- Inform the location to the customer's partner where the data fetched from OneMoney account aggregator is stored
- Encrypt the fetched data with the customer's partner's private key knowledge of which is known only to the customer's partner.

The MoneyOne Partner Program service then connects to different data service providers to fetch data and stores data it in centralized MPP server. Similarly, OneMoney private data share service connects with OneMoney account aggregator service to fetch financial data, decrypts it and stores it in user's device. OneMoney private data share SDK then notifies centralized MPP server of data availability. On receiving the notification centralized MPP server fetches the financial information data from user's device and stores it in centralized MPP server.

The centralized MPP server then notifies the availability of financial information data and third-party data to client MPP server. On receiving notification, the client MPP server fetches financial information data and third party data from centralized MPP server, decrypts it and stores it. After data is fetched successfully by client MPP server the centralized MPP server will delete both financial data and third-party data.

After decryption of fetched data the client MPP server will notify the partner application server of data availability. On receiving notification, the partner application server will fetch the decrypted financial data and third party data and use it for its own use case.

Note: OneMoney AA private data share SDK only connects with OneMoney backend service instead of connecting to MoneyOne Partner Program as per AA ecosystem specification.

The details of each component are given in below section.

High Level Specification

The MoneyOne Partner Program software system consists of the multiple components and they are MoneyOne Partner Program SDK, OneMoney Private Data Share SDK, Central MPP service, OneMoney private data share service, OneMoney Service, MPP client server, Central MPP service admin portal and client MPP server admin portal

Component/Service	Details
Enterprise Mobile App	<ul style="list-style-type: none"> • The front-end mobile app is actually from enterprise client. The mobile app embeds the MoneyOne Partner Program SDK and OneMoney private data share SDK. • The mobile app will share the private key to OneMoney private data share SDK for financial data encryption in user's mobile. • The mobile app can be an Android app or iOS app as the MoneyOne Partner Program SDK and OneMoney private data share SDK will be flutter SDKs
MoneyOne Partner Program SDK	<ul style="list-style-type: none"> • MoneyOne Partner Program SDK is solely responsible for user interactions with MPP central Service and other third parties. • User opt for data sharing with enterprise with pre-defined consents as per need. • MoneyOne Partner Program SDK displays the financial data consent and third party data consent of user's partner to the user to review it and approve it for data sharing. • MoneyOne Partner Program SDK submits the consents to MPP central Service. • It reads the data from specific location where the financial data is already encrypted and stored by OneMoney private data share SDK. • Shares the financial data to MPP central service.
MoneyOne Partner Program Central Service	<ul style="list-style-type: none"> • MoneyOne Partner Program central Service is used by MoneyOne Partner Program SDK for consent submission. • Supports the consents parameters for different types of data fetch. • MoneyOne Partner Program central Service stores the consent artefact for each user. • It uses the consent details to fetch financial and other data from different third parties. (except AA) • It receives financial data fetched by OneMoney private data share SDK from MoneyOne Partner Program SDK • Temporarily store the financial data and third party data. • Notifies client MPP server about financial data and third party data availability. • Shares financial data and third party data to client MPP server • Deletes financial data and third party data after sharing them with client MPP server
MoneyOne Partner Program Central service Admin Portal	<ul style="list-style-type: none"> • This admin portal is used by MoneyOne staff • Provides option to view Financial data and third part data consent requests from different enterprise partners • Provides option to view data fetches of financial data and third party data. • Generates usage and reconciliation reports for enterprise partners • Manages billing of enterprise partners
Client MPP server	<ul style="list-style-type: none"> • Places financial data and third party data consent requests

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	<ul style="list-style-type: none"> Fetches encrypted financial data and third party data Decrypts financial and third party data Stores financial data and third party data Shares financial data and third party data with enterprise partners
Client MPP admin portal	<ul style="list-style-type: none"> The admin portal is used by enterprise staff. The portal helps enterprise to define the products (consent parameter). View the consent requests with their status View the data fetch requests and their status Send consent and data available notifications to enterprise partners
OneMoney Private data share SDK	<ul style="list-style-type: none"> OneMoney Private data share SDK is embedded into MoneyOne Partner Program SDK. User is re-directed to OneMoney private data share SDK once he approves the consent in MoneyOne Partner Program SDK. It takes the predefined consent parameters from MoneyOne Partner Program SDK and private encryption key. OneMoney private data share SDK submits the consent to OneMoney backend service. User approves the consent with the OTP verification. Redirects user back to MoneyOne Partner Program SDK. It fetches the encrypted FI data from OneMoney backend API. It decrypts the encrypted financial data fetched from OneMoney backend APIs. Encrypt the FI data with the private key of the customer's partner shared MoneyOne Partner Program backend service and stores in the device at a location specified by OneMoney private data share SDK. Notifies MoneyOne Partner Program SDK once data is stored in the specific folder location created by OneMoney private data share SDK
OneMoney PDS Service	<ul style="list-style-type: none"> OneMoney private data share service manages consents for the user. It generates consent artefact after approval by the user and stores it. It manages FI data fetch from OneMoney AA Service for the approved consents. Notifies OneMoney private data share SDK once data is fetched from OneMoney AA service. Generates the key materials and shares it with OneMoney private data share SDK for encrypting the FI data by FIP.