Fund Investor Onboarding

Request for Proposal

Agenda

Introduction

About BNP Paribas Securities Services

The Company

Since its inception in 2001, BNP Paribas Securities Services, a wholly owned subsidiary of BNP Paribas SA, has become a leader in asset servicing and securities services.

Part of the Corporate and Institutional Banking (CIB) division, BNP Paribas Securities Services is the asset-servicing arm of BNP Paribas and is solely and entirely dedicated to providing securities services. BNP Paribas Securities Services is a full service franchise offering global solutions to financial intermediaries, institutional investors, securities industry groups and corporate firms:

- Global custody
- Global and local clearing and settlement related services for securities and derivatives
- Middle and back office outsourcing
- Fund administration
- Investment reporting and performance measurement
- Transfer agency and retail investor services
- Fund distribution services across all major European markets
- Global liquidity management
- Global corporate trust services and market execution services
- A wide range of complementary servicing solutions

With a solid client base made up of over 900 institutional clients across the world and as one of the leaders in securities services in Europe, BNP Paribas Securities Services enjoys an unmatched presence across the investment markets of continental Europe and a historically strong presence in the UK and Australasian markets. We offer clients the twin benefits of global perspective and on-the-ground local industry expertise through our presence in 28 countries representing 37 locations and partnership entities worldwide.

BNP Paribas Securities Services facilitates client expansion into new markets and products in Europe, Asia and South America through the considerable expertise we retain in local regulatory, tax and market infrastructures. Clients also benefit from the well-established contacts that BNP Paribas Securities Services maintains with domestic authorities and industry associations, providing for incisive local cost solutions and revenue generating opportunities.

BNP Paribas Securities Services is delivering its solutions through Client delivery & four client lines: Asset Manager (AM), Asset Owner (AO), Alternative Investors (AI), Financial Intermediaries & Corporate (FIC).

Regulation Context

Knowing Your Customer (KYC) is a process that occurs in financial services mandated by regulation. For financial services providers it means having a good idea of who you are providing financial services to, whether they are individuals or businesses.

In the case of individuals, the process ranges from proof of identification and address through to understanding a person's source of wealth, business interests and family connections, especially if they have politically active family relations.

For institutional investors it means understanding the business, the entity structure, history, directors and shareholders, and how the business operates and makes money.

As distinct from KYC, Anti Money Laundering (AML) and Countering the Financing of Terrorism (CFT) are about understanding patterns of money flow at the transaction level to avoid helping criminals. Banks get into trouble when they get caught moving money around if the money has illegal or immoral origins or is used for illegal purposes, such as funding terrorism.

The issue to solve

As mandatory, the KYC/AML/CFT process become an expensive part of the Onboarding process of a new client and each financial institution must do their own KYC.

This means financial services companies have a high cost of customer acquisition, and for customers it means a painful and redundant process to go through, every time a new account is opened with a new financial services provider.

On some markets, some asset managers / funds decide to outsource their Onboarding process over investors / distributors to their transfer agent (i.e BNP Paribas Securities Services).

In that context, the following terminology will be used:
- Investors / distributors are called as "the fund buyer": the fund buyer provides with the Information / documentation required to manage the KYC/AML analysis
- The transfer agent (i.e BNP Paribas Securities Services) is called the asset servicer
- The asset managers / funds are called as "the fund seller": the fund seller has access to the Information / documentation and review the KYC/AML analysis in order to make the decision to on-board or not the giver.

Purpose of the Request For Proposal (RFP)

The present Request For Proposal (RFP) is the second part of the selection process being managed by BNP Securities Services, aiming at building Fund Investor Onboarding solution.

The provider should present its solution to address BNP Securities Services technical and functional needs and describe how he will be able to implementation the solution.

RFP Management

General features and confidentiality

This RFP is intended to give BNP Paribas Securities Services enough information about the solutions offered by your company in order to assess your capabilities and identify gaps. BNP Paribas Securities Services reserves the right not to choose any provider for any appropriate reason (project delay, internal development scenario pushed forward et cetera). Any provider's involvement could be terminated at any phase of the RFP process.

The terms of this RFP and all related information provided to the provider by BNP Paribas Securities Services, in connection with the RFP, are to be treated by the provider as strictly confidential and proprietary. Such materials are to be used solely for the purpose of responding to the RFP. Access to the RFP materials and related information shall not be granted to third parties and/or subcontractors without the prior consent of BNP Paribas Securities Services and the prior written agreement of the recipient to treat the materials as confidential. BNP Paribas Securities Services will not tolerate any canvassing from any party during the selection process for the services.
Any information disclosed by the provider in response to this RFP will be treated as confidential and will not be used by BNP Paribas Securities Services in any manner that identifies the source of the information provided.

Communication

BNP Paribas Securities Services will manage this RFI internally.

Any communication regarding RFP content should be sent to:
- o Khai Uy Pham – Global Product Owner - (khaiuy.b.pham@bnpparibas.com)
- o Laure Capron – Product Owner- (laure.capron@bnpparibas.com)
- o Samir Seridj – BP2S Procurement – (samir.seridj@externe.bnpparibas.com)
- o Aline Wilthien – IT Global Owner (aline.wilthien@bnpparibas.com)

All communication regarding RFP content must be provided in writing (by e-mail); answers will also be provided in writing (by e-mail) and may be shared among all providers if it is considered useful by BNP Paribas Securities Services.
The subject of each message should start with "RFP –Fund Investor Onboarding"

No communication can occur outside of the channel mentioned above from RFP launch until BNP Paribas Securities Services' final decision on provider selection.

Planning

- 10 November 2017
    - This RFP is sent to Providers
    - From date of receipt of the RFP, providers could ask some questions to the mailing list here above
    - From the date of receipt of the RFP, providers should notify to the mailing list here above their availability to perform an interview with BP2S
- 20 November 2017
    - Providers will send written confirmation of their intention to participate to RFP phase before that date
    - Providers will indicate their availability to take part at a 2 hours presentation in BP2S's Pantin Office
- 28 November 2017
    - Providers must send their service proposition and answer to the list of question provided in appendix before the 28th November at 2pm at latest
- 4 December 2017
    - Providers' interviews will start and end the 8th December
- Day + 3 after the interview
    - Provider will send a reviewed version of its service proposition and list of questions
- 19 December 2017
    - Selected provider will be informed by BNP Paribas Securities Services.
    - After the selection, the contractualization phase will occur between 19th and 22nd
    - The provider should be ready to start the project first week of January

Preparation of the answer to this RFP

- The answer to this RFP will have to be provided in English only and sent to:
    - Khai Uy Pham – Global Product Owner - (khaiuy.b.pham@bnpparibas.com)
    - Laure Capron – Product Owner- (laure.capron@bnpparibas.com)
    - Samir Seridj – BP2S Procurement – (samir.seridj@externe.bnpparibas.com)
    - Aline Wilthien – IT Global Owner (aline.wilthien@bnpparibas.com)

- Answers must be in English and must cover all questions listed in the Appendices. No question must remain unanswered.
- The oral presentation will be in BP2S - Pantin office and must be in English.
- Please note that all expenses related to the preparation of the reply to this RFP are to be covered by the provider exclusively. In no case will BNP Paribas Securities Services refund expenses relating to this RFP, neither in part or in whole.
- The template format of all appendices provided by the project team must not be amended. Files names must also remain unchanged other than adding your company name as a suffix, following this example: "Fund Investor Onboarding - Appendix XX - Topic - _Your Company Name_.xlsx"
- BNP Paribas Securities Services may request access to the providers existing clients.
- BNP Paribas Securities Services will select the top three providers for the oral presentation based on the quality of the written answer supplied.
- Only the selected top three providers will go through the oral presentation.

RFP key contents

The provider should supply detailed information, linked to the Fund Investor Onboarding context, concerning the following points:

- Pricing and fees of the proposed solution
- Planning and approach of the intervention highlighting two different phases :
  - A first one aiming at creating with BNP Securities Services team the design and the architecture of the project in order to go through the IT Validation Committee, this committee could occur during the first two-weeks of February.
  - A second one for the implementation, integration within the BP2S ecosystem and production of the solution. This phase, depending on internal validation, should start end of February and must end in June.

- Ways to face risks and regulatory constraints
- A precise technological architecture assessment focusing on:
  - Blockchain utilization
  - Data interfaces
  - Front-end web
  - Data hosting
  - Proposed solution global architecture

- Satisfy and fulfill key functionalities mentioned above
- People and team organization to run the proposed solution
- IT requirements (Business requirements, solution implementation, integration, support, maintenance and training)
- Credential and quality certificates concerning implementation of new technologies and business knowledge (Run KYC profiling, manage digital identification, develop client onboarding's solutions, etc.)
- Provide a RACI concerning the two phase of the project
- Showing capacity to work in coordination with BNP Securities Services being outside BNP Securities Services site will be considered as a plus
- Showing ability to develop the solution outside BNP Securities Services environments will be considered as a plus

In addition to this element a detailed list of questions will be provided with this document.

Selection criteria

The following criteria which are neither exhaustive nor fixed will be used to assess provider responses to the RFP. Criteria are not ranked by priority.

Functional aspects

- Data & document availability
  - Dealing with private data.
  - Access to data and document.

- Access to user (fund buyer i.e investor; asset servicer i.e TA; fund seller i.e the asset manager) profile covering Investor and TA reading and writing rights, only reading rights for the AM (except in case of validation required by the AM)

- Integration & Connection
    - Integration into BP2S structure and ecosystem.
    - Responsive design is required despite MVP is primarily required to be used on desktop
    - User easy access and interaction.
    - Capacity to connect on a screening market tool (for instance Factiva, Actimize).
    - Capacity to connect on internal screening tool (for instance Sun, Shine, Vigilance).
    - Capacity to identify risk profile level (scoring function).
    - Capacity for TA to validate investor
    - Ability for the AM to validate investor once the TA has validated it – optional
    - Access rights management (both access creation and access maintenance)

- Regulatory compliance
    - Ability to deal with GDPR constraints.
    - Knowledge and ability to deal with KYC requirements.

- Management criteria
    - Price of the solution.
    - Ability to respect BP2S delivery timeline.
    - BP2S implication in the solution development.
    - Internal teams training.
    - Fulfil procurement RFP criteria.
    - Contractual guarantee.

Technical aspects

The implementation should be proven and reliable, easy to test, support and enhance. Moreover the solution must be enough flexible to facilitate changes in business priorities or facing market and legal/regulatory updates.

- Design and Architecture

    - Ability to provide expertise on technical aspects to finalize technical design and architecture tasks in order to go through the IT Validation Committee
    - IT validation committee role is to give the project an official "GO" to engage the implementation phase
    - IT validation committee addresses security, compliance, production and support topics in addition to IT technical points.
    - IT validation committeee is scheduled first two weeks of 2018, February

- Development and integration

    - Capacity to implement any interface (for instance Data Access) by an API approach.

- Choice of modular development (i.e. micro services)
- Alignment with BNPP technological standards (available on request)
- Capacity to integrate data coming from utilities (for instance, from a digital identity providers)
- Capacity to reuse BP2S authentication platform (i.e. SSO system)

- ■ Blockchain

  - Proven expertise in blockchain technologies
  - Active actor of the blockchain community
  - BP2S is agnostic to blockchain technical solution. Thus, IT partner must be able to give a clear justification of blockchain technical framework chosen
  - Fraud resilient solution
  - Low node setup time and cost
  - Short blockchain update latency
  - Scalability capacity (both on transaction validation rate and on client Onboarding)
  - Level of transaction privacy
  - Ability to explain Smart Contracts utilization (use cases)

- ■ Data hosting

  - BNPP/BP2S IT policy requires internal hosting for the overall solution and alignement with exploitation and supervision of internal standards
  - For some components, given a precise explanation, external hosting may be suggested
  - In this case, internalization path is to be given in your proposal or explained

- ■ Software components

  - In case the overall solution implies third parties software acquisition / items, detailed information on French / European technical specialists capabilities is required

Financial and legal aspects

- ■ The financial stability of the provider;
- ■ The transparency, the cost structure and the cost metrics
- ■ The level of costs for the package (license, one-off costs of implementation and yearly costs for support and maintenance, extra services etc.);
- ■ Sustainable development.
- ■ The ability to support BNP Paribas Securities Services or its clients in relation to the solution provided i.e. no provider's internal limitation such as conflict of interest should prevent the delivery of the service to BNP Paribas Securities Services or its clients.
- ■ The provider's eligibility for the "Credit Impot Recherche" criteria will be consider as a plus.
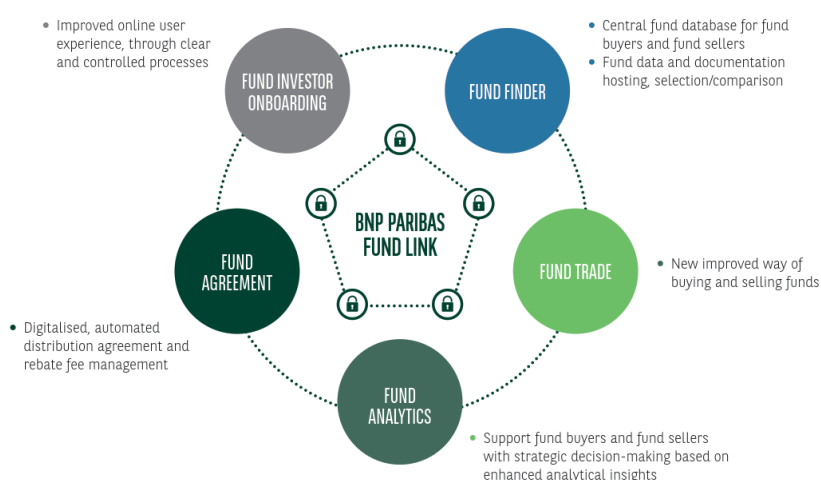
Fund Investor Onboarding

Context and objectives

Fund Investor Onboarding project aims at significantly improving the investor Onboarding experience, for both the fund buyer and the fund seller, in terms of speed, simplicity, and transparency.

Today, performing KYC/AML controls, as a pre-requisite to initial investment, is a major pain point for the fund management industry.

Also, fund sellers such as asset managers delegate the Onboarding process of its investors (institutional investors or individuals) to BP2S, acting as a transfer agent.

Fund Investor Onboarding should be considered as the first module of a larger and multifunctional solution called Fund Link.

Fund Investor Onboarding is the threshold of all the other modules as it should permit user Onboarding on a common modular platform and then accessing the different modules functionalities.

Current state

On July 2017 a Proof Of Concept (POC) on Fund Investor Onboarding was finalized.
The POC allowed to validate the utilization and interest of the new technologies applied.

The next step is to propose a technological solution that can be used in a production phase and in particular during the realization of a **Minimum Viable Product** (MVP).

The MVP should be based and leverage on the **POC results** and outputs.
Below a list of the main outputs achieved during the POC phase. This phase was run in co-design and co-operation with one Asset Manager Client.

- New institutional investor account creation: login and password authentication; creation of a wallet hosted internally by BP2S
- New institutional investor profile: general information; document upload; e-sign blockchain transactions
- Investor Dashboard: file application overview; basic document repository; follow document/information validation
- Transfer Agent dashboard enabling file selection
- Transfer Agent workflow: form validation; documents validation; basic screening function
- Asset Manager branded dashboard
- UX and interfaces (front page screens)
- Clear definition of the process and structure of the solution
- Clear vision of the range of functionalities wished for implementation
- The whole POC process was run in co-design with an asset manager client and adopting design thinking and agile methodology

The list and the table below describe the perimeter established for the MVP:

- The MVP scope concerns one single Asset Servicer, but should be open to the integration of future ones.
- For the MVP, one single geography entered in the scope, while in the target solution there are going to be multiple geographies.
- The MVP is supposed to take into account 2 Asset Managers, despite its willingness to evolve toward a larger number of Asset Managers.
- The MVP is focused on institutional investor whereas the target solution would be available for any type of investors
- The number of investors would be around one hundred in the MVP and can reach thousands in target.

	POC	MVP	Final Target
Domiciled service	Luxembourg, Ireland	Luxembourg	Worldwide
Investors	New investors	New investors Pre-existing investors	Any type of investors (including remediation from a previous database)
Model	Closed	Closed	Open
Asset Manager	A single Asset Manager	A single Asset Manager	Multiple Asset Manager

The solution proposed should fit and answer the MVP's needs and scope.
Although it should not suggest technologies, functionalities or methodologies that can **prevent or limit BP2S capacity** to attain its future target solution.

RFP structure and key elements

RFP's technology focus

Blockchain

For a certain perimeter (already established for the MVP), data management should be done on the blockchain, which is an immutable distributed ledger.

The platform will provide the API for all partners to access to the relevant decentralized data.

The promise of blockchain is to provide the shared KYC registry, with documents and data stored fully encrypted with some rules:
- Customers (Investors) should be in control over their own data.
- Customers should then be able to grant temporary access to institutions wanting to view their data.
- Customers should have a choice over what data is revealed.
- Customers should be able to remove documents from this registry when they are out of date or need updating.

Data housing

User's personal data housing and management is a key element of the Fund Investor Onboarding solution.

Solutions and options concerning how data is going to be storage and where should be integrate in the provider's answer to this RFP.

Keys functionalities and business requirements

The Fund Investor Onboarding module of BNP Paribas Fund Link project allows fund sellers to fasten the Onboarding of their institutional investors (i.e no individuals at this stage).
The data that would transit on the platform are the exclusive property of the data owner and the asset servicer

Fund Investor Onboarding will provide an end-to-end digital Onboarding experience, with documents and data stored fully secured.

Below an overview of the global process of Fund Investor Onboarding
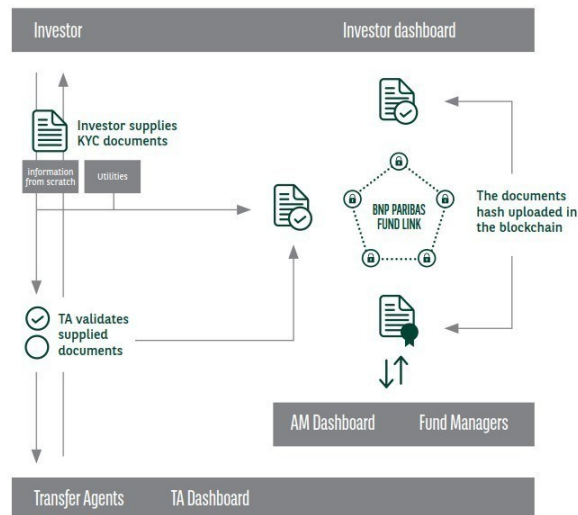
Fund Investor Onboarding will be based on blockchain technology, to provide a KYC/AML registry, with documents and data stored fully encrypted. These will be some of the **key principles of the feature**:

- Investors (i.e fund buyer) should be in control over their own data.
- Investors (i.e fund buyer) should then be able to grant temporary access to fund manufacturers wanting to view their data.
- Investors(i.e fund buyer) should be able to provide with a link to another source where the data& documents are available (utilities for instance)
- Investors (i.e fund buyer) should have a choice over what data is shared.
- Investors (i.e fund buyer) should be able to update documents from this registry when they are out of date. They will not be able to remove any documents for audit trail purposes.
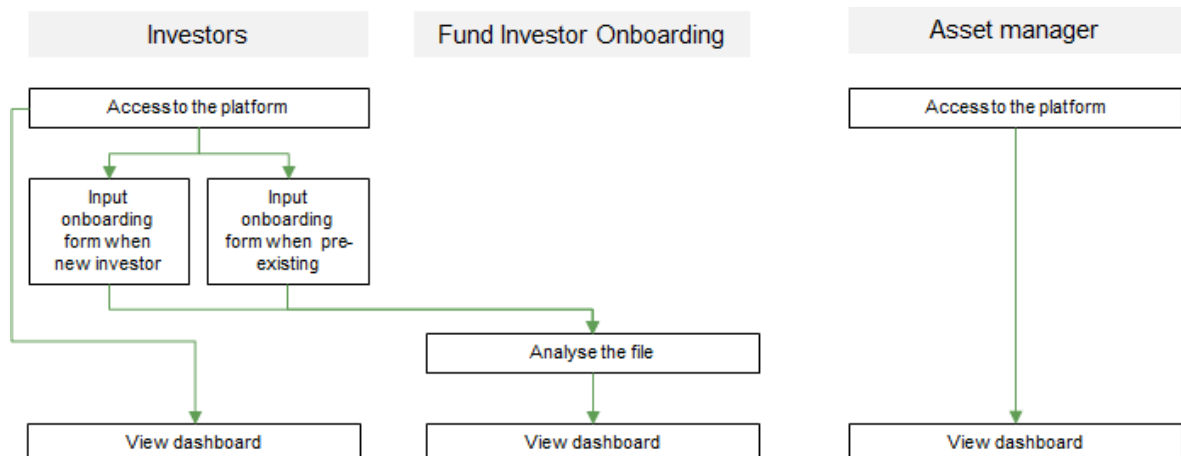
The **key functionalities** that need to be implemented in the MVP production phase are the following:

I. Access to Fund Investor onboarding for (i) Investors, (ii) Fund sellers and (iii) Asset Servicer (BP2S teams only for the MVP).
Two investor profiles:
1-New Investor → First access to Fund Investor Onboarding platform

2-Existing Investor → Already owner of an account on Fund Investor Onboarding platform

Fund Investor Onboarding's screen for new investor access request

Because the investor can be a former client or an external actor, it is necessary to address the question about which authentication protocols (IDAs) fit the solution.

A particularly sensible point is the access rights management topic concerning both access creation and access maintenance.
Investor will rely only on the approved list of signatories who are authorized to sign in the investor name.

Asset managers willing to access the platform have to appoint an administrator.
This administrator will define the access rights required by employee. He will manage these access rights: update, remove control.

BPSS will appoint an administrator who creates/updates/removes access rights according to instructions given by the administrators.

II.   KYC Services are delegated to BP2S as the Asset Servicer
III.   Manage different version of the KYC grids (3 to 5 versions) with slight differences.
IV.   Access to information and document templates needed for the Onboarding process. This may include an online application form, complemented with due diligence type questionnaires. It may also include external sources and pre-population of some files and documents.

Fund Investor Onboarding's screen showing online application form that need to be fulfilled with general information and uploaded documents

V.　Online monitoring with dashboard. Investors, Fund sellers and BP2S are able to monitor the progress of the Onboarding applications, and have a clear understanding of status and remaining open points at all times.

　　BP2S, as TA, has to control and check the Investor profile and KYC files. If the all the requested documents are provided and the KYC file is judged as compliant, the TA can proceed validating the Investor request to be on-boarded.

　　Fund Investor Onboarding's screen showing the TA dashboard. Through this dashboard the TA can monitor the progress of the onboarding applications.

VI.　Online management of information shared: the Investor would be able to select the information/documentation shared and the fund seller with whom he would like to share. (Compliance with GDPR and banking secrecy constraints).
　　Investor can select and validate which actor within the Asset Manager has the right to read his profile and documents.

　　Fund Investor Onboarding's screen for fast onboarding sharing information to get a faster validation.
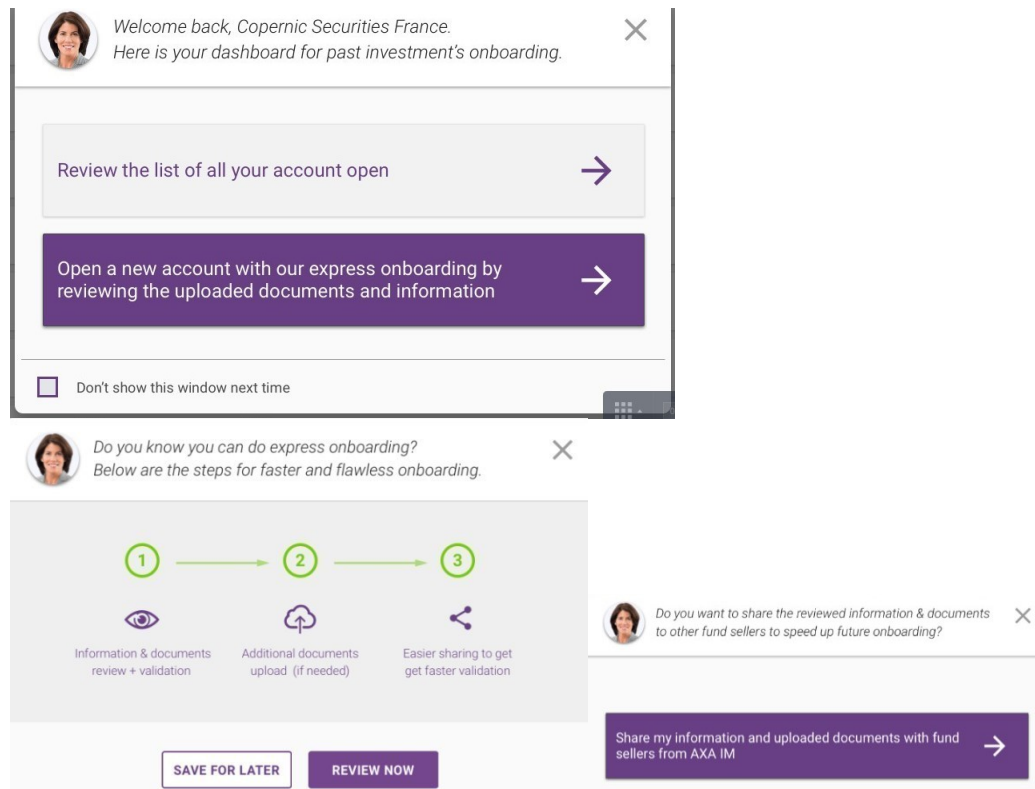
VII.   Online scoring for Fund sellers. They will be able to consult the result of the scoring and the details that lead to the results.

VIII. Online validation from Fund sellers to materialize that he is comfortable to accept the Investor based on the file analyzed by BP2S teams who will deliver the services. This feature is optional.

The graph below shows a sum up of the main actors and actions involved in the investor Onboarding process.
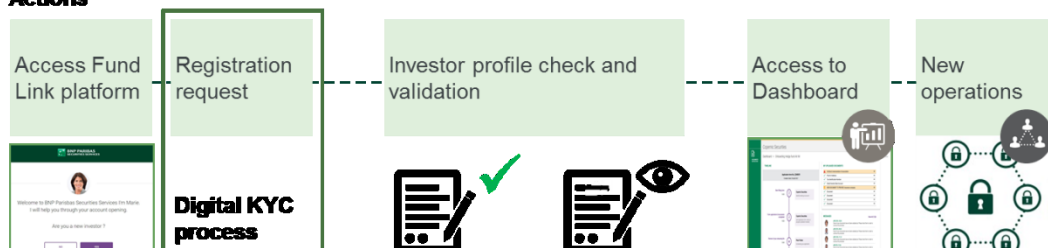
Content and functionalities of the smart contract:

In the POC realization, Fund Investor Onboarding used in its flow 3 smart contracts with the following functions:

1- A smart contract to identify the investor according to the information he enters in the system in order to determine the required documents.
2- A smart contract to recognize the user and allows him to access to his rights and data.
3- A smart contract to send a warning message in case of modifications.

At this stage, the latest has not been realized yet but it is an addition to take into consideration for the MVP.

Principles and methodology

The MVP phase should be run according to the agile methodology, already used during the POC. BP2S will provide the Product Owner, the Process Owner and IT Owner who will be the connection between the internal team and your team.

The POC operating structure was composed by two different squads. A BP2S squad driven by the Product Owner and an external squad provided by the provider with a scrum master. This organization is not mandatory, any other organization model can be proposed.

The provider will describe the proposed organization in terms of:
- Roles and responsibilities
- Continuous deliveries
- Client involvement
- Priority management based on value estimations and cost

The provider has to keep capacity to manage Epics, Stories… with adapted tools, Agile principles and metrics (client satisfaction, transparency, productivity, velocity). In any case, the provider has to act in coordination and continuous iteration with BP2S internal teams.

Technical requirements

On the frontend, the provider could capitalize over developments done during the POC (NodeJS, React). The BP2S's standard on this layer is Ext JS, but you can propose, as an option, another development framework (AngularJS, nodeJS…).

The frontend should run on the latest releases (version N and N-1) of the most popular browsers, enabling a smooth user experience (IE, Chrome, Firefox, Opera …).

Any user's action on any GUI windows of the FIO application should take no more than 2 seconds to be taken into account, meaning for the user to receive a feedback of his action.

In addition, the provider should give an estimation of the insertion and validation delay in his proposed blockchain technology.

Solution implementation

BNP Paribas Securities Services might not be able to permanently host the provider's team in Pantin site. Therefore, the provider should be able to propose a solution allowing its own team and BNP Securities Service team to work together on the solution.

The provider's ability to develop the solution outside BNP environments will be a plus. Please describe your capabilities in terms of location (street shore / near shore / off shore), development environments (servers, networks access, software factory), and installation procedure over targeted environment for testing.

Integration

For the MVP stage, a few links should be implemented with our legacy:
- **Web portal**: usually, such applications are hosted in our common web portal (which URL is http://securities.bnpparibas.com) at least at the beginning but a migration towards another reserved URL could be decided during the project.
- **SSO**: an integration must be done with our BNPP SSO system. Depending on the user profile, connection will be done through a PKI (for internal users), through a single Login/password (for Asset Manager users) or through a RSA SecurID dongle (for Investors and external Transfer Agent users).
- **Screening application**: during the KYC process, our legacy system for screening (Shine) should be linked to the MVP.
- **Document Management**: all client documentation should be stored in Documentum which is our Document Management application.
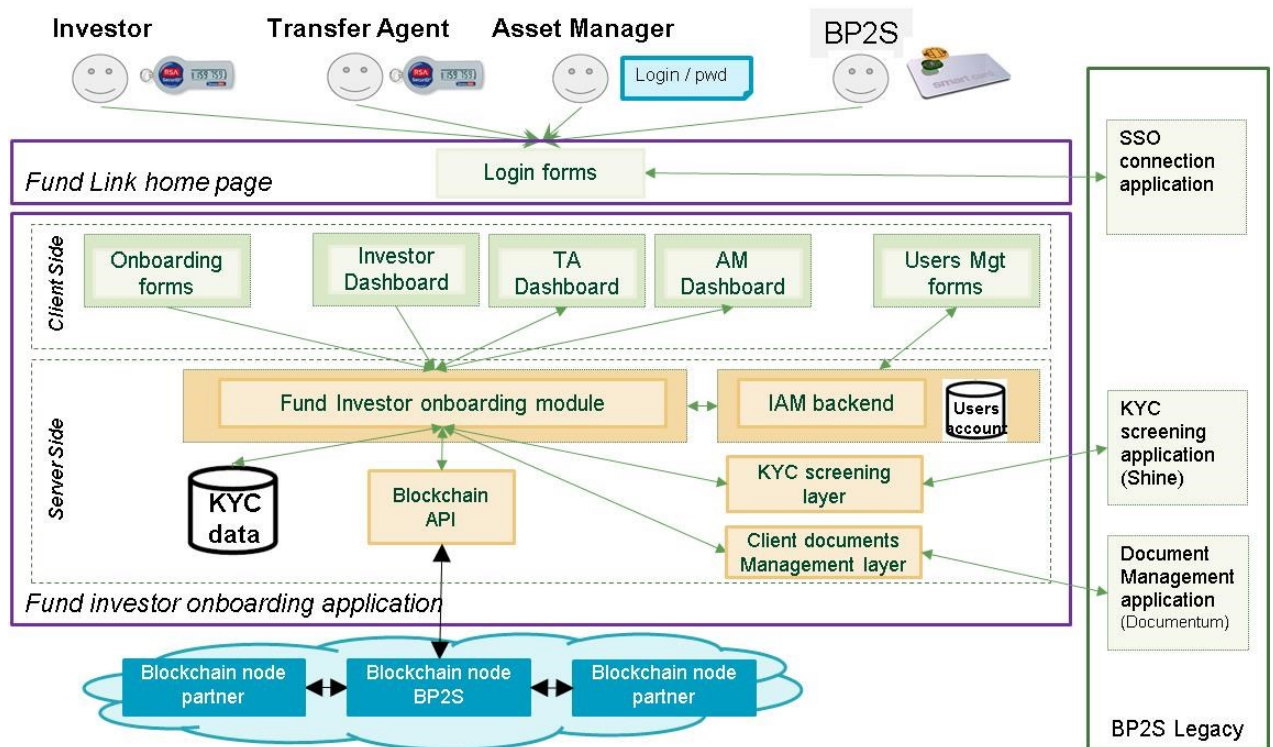
Concerning integration, it is required to clearly state:
- RACI of the overall activities required to build the overall system (please refer to previous diagram)
- Potential adaptations to the agile methodology to integrate with "non-agile" applications

Support and maintenance

The organization for the support process will be defined during the MVP development phase but providers should explain in their proposal their capabilities for Support and Maintenance activities.

Maintenance may be described in terms of organization, SLAs and metrics to be used for quotations.

Training

A global training concerning the MVP implementation phase (for instance, the technical architecture, code structures for build modules, patch management process, Smart contract developments…) should be given at high level (i.e. overview).

The number of people to be trained will be confirmed later during the process.

Security constraints

At this stage, impact analysis is not finalized and consequently potential raised constraints may be given during the RFP process.

At least, it is required to underline, as part of your proposal, potential security limitations known at this stage.

Deliverables and BNPP BP2S mobilization

Suppliers are asked to clearly formulate their deliverable matrix, stating information or people mobilization they require on BNPP BP2S side.

Economics

Quotation framework

The provider will explain on a Microsoft Word document its financial offer. All financial aspects will be analysed together with all quality aspects.

During the RFP Process and/or during discussions, BNP Paribas Securities Services reserves the right to:

- ask the provider to quote other items
- exclude some item(s) from the final scope
- consider some item(s) as optional

Items to be quoted

During the RFP process, it is required to provide quotes for the following items:

- Service proposed as per the different lots defined
- Integration / Implementation
- Annual / licence fees
- Specific developments
- Maintenance and support

It may be a plus to get metrics on evaluation process, in particular to cope with agile approach which inherently can lead to functional scope changes.

Fixed Prices quotations for project phases are required, although an alternative approach may be considered given a solid argumentation.