



Joint Initiative pan-European Mobile P2P Interoperability

Mobile P2P Interoperability Framework Operational Rules

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* The 'Joint Initiative pan-European Mobile P2P Interoperability' brings together participants of the Berlin Group, infrastructure providers and participants from principle Mobile P2P scheme services in Europe. In January 2016, the participants to the Joint Initiative have published a Technical Feasibility Study on pan-European Mobile P2P Interoperability which can be downloaded from the Berlin Group website (<http://www.berlin-group.org/mobile-p2p-interoperability>).

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1 Introduction

Background

A Mobile P2P Scheme is a solution where participants can transfer funds mostly in real-time or near real-time using their smart phones and mobile phone data as account proxy information. The underlying accounts can be bank accounts or any other form of accounts for electronic money. The Mobile P2P Scheme consists of a bundle of contracts and operational and technical rules as well as further added value services like payment requests or collecting funds as a group of members.

The Mobile P2P Scheme can be a scheme with a dedicated mobile app and dedicated contracts or can just be a payment function within a bank's generic mobile banking app. The contracts cited above are then part of the general customer contract with the bank. For the sake of simplicity, all these solutions are named as 'Mobile P2P Scheme' in this document and in the Framework documents referenced in section 7.

In Europe many of these solutions have been developed with the rise of smart phone usage. These solutions are today not interoperable, i.e. a participant of Scheme A cannot interact with a participant of Scheme B.

Mobile P2P Interoperability Framework

The Mobile P2P Interoperability Framework as defined by a Joint Initiative of the Berlin Group, infrastructure providers and participants from principle European Mobile P2P scheme services (hereafter: Joint Initiative) is a Framework for the European area for connecting Mobile P2P Schemes. This Framework is independent of the corresponding Mobile P2P Schemes and enables consumers to perform Mobile P2P transactions between each other in a situation where the consumers are participants of different Mobile P2P Schemes.

This Framework relies on the SCT INST infrastructure which is expected to be piloted in early 2018. Clearing accounts of the Mobile P2P Schemes should at least be reachable for SCT INST – the Framework does not require the participants accounts to be reachable.

There is also a variant using the SCT infrastructure for the period of migration of the banking industry towards SCT INST. If SCT is used, additional business agreements between the corresponding Mobile P2P Schemes might be needed dealing with the topic of a payment guarantee for the end-of-day batch processing after having initiated the underlying SCT payment successfully.

The Mobile P2P Interoperability Framework defines operational rules and interfaces for the Proxy Lookup Service, Clearing/Settlement of funds transfer and an optional Payment Notification on

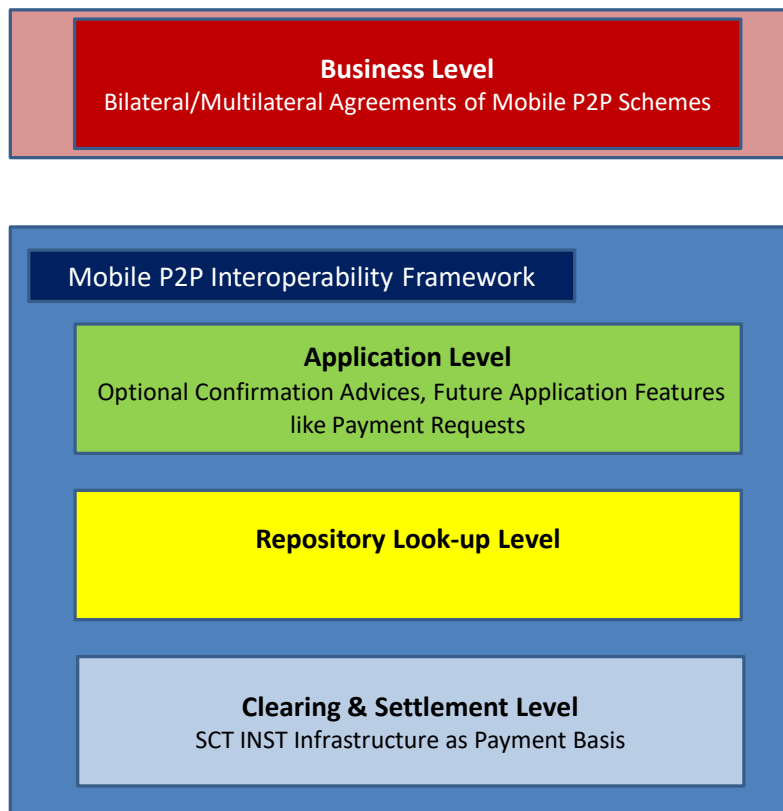


Application Level within the scenario of direct booking to the Beneficiary Account or where SCT is used on the Clearing & Settlement Level.

The Framework does not take care of contractual issues between the corresponding Mobile P2P Schemes. It is assumed that a bilateral or multilateral contract for the mutual reachability of the corresponding Mobile P2P schemes exists.

The Framework is independent of the underlying technical architecture, in analogy to the existing SEPA payment architecture. It can be used in bilateral or multilateral/distributed settings where Mobile P2P Schemes are connected directly to each other, as well as in settings with a central Proxy Look-Up Switching Service in place.

The differentiation of the Mobile P2P Interoperability Framework in different levels is addressed in the following picture. Each level is represented by a different colour. These colours are used throughout the document.



Implementation Guidelines

The complementary document [MP2P IG] of the Mobile P2P Interoperability Framework covers detailed message definitions and examples for repository level, clearing and settlement level and application level. The data attributes of the operational rules are referenced in the message definitions.

Aim and Structure of the Document

The aim of this document is to provide the definition of the roles within the framework, the operational rules and the abstract data model. The data model is a compilation of abstract message definitions for the repository level, clearing and settlement level and application level. Data attributes (AT-NN) are defined in the operational rules for the data model.

In Section 2, a summary of the supported services is given. Then the roles of the Framework actors and minimum requirements on participating schemes are defined in Section 3. This is then followed by the definition of operational rules in Section 4, definition of a data model in Section 5 and a process description in Section 6. The document then ends with a list of reference documents in Section 7.

Document History

Version	Change/Note	Approved
0.99	Market consultation version	03/02/2017
1.0	Results of market consultation acknowledged	09/06/2017
1.01	Adjusted to Creative Commons license 'BY ND'	31/08/2018
1.1	<p>Change Requests from EPC resulting from the 2019 market consultation related to the EPC SPL Scheme. Major impact is</p> <ul style="list-style-type: none">• Introduction of Creation Date Time attributes also in proxy lookup response messages• Introduction of email as potential proxy type• Introduction of non-Euro currencies in proxy lookup messages	20/03/2020



2 Mobile P2P Inter-Scheme Services

The following services are supported in the Mobile P2P Interoperability Framework.

Mobile P2P Service	Support
Mobile P2P Payment By this person-to-person service, customers can credit other customers by using a smartphone to initiate the payment. Hereby, a mobile number or other aliases are used as a proxy for the account information. The beneficiary is notified about the entry of the money in real-time, and the funds are also normally available in real-time, while the underlying settlement between the debtor bank and creditor bank can be performed later.	Within the Mobile P2P Interoperability Framework, this function is divided into a Repository Look-Up and an SCT INST transaction. An additional solution, using SCT formats before SCT INST is live is defined for an early adoption in Pre-SCT INST period.
Enhanced Remittance Information Transport By this enhancement of the Mobile P2P Payment, the sender of the money is enabled to send media data to the beneficiary within the Mobile P2P transaction.	This function is supported by adding a field in the Notification Advice which is communicated directly between the two Mobile P2P App servers. This additional field transports multimedia data in base64 encoding. The media type is additionally defined. This type could be pdf, jpeg etc. This function may only be used when agreed bilaterally between the Originator and the Receiver MP2P Scheme.
Reachability Check This service is just checking whether an alias is contained within an addressed Repository. This service might be used, where an Mobile P2P scheme wants to tell its user, which elements of the user's contact list e.g. in its mobile phone is reachable through the Mobile P2P App.	This is realised by a simplified version of the Repository Look-Up service. This function may only be used, when agreed bilaterally between the Originator and the Receiver MP2P Scheme.

The following services, typically supported by Mobile P2P Schemes are not yet supported within the Interoperability Framework:

- Payment Request: Send text or other information together with an amount and ask the other side to pay it, this payment is then to be confirmed or to be rejected by the receiver,
- Collection of funds of a group of members, and
- Specific Mobile P2B solutions.



3 Roles of the Framework Actors

This chapter describes the roles of the actors in the Mobile P2P Interoperability Framework.

3.1 The Actors

A Mobile P2P Scheme consists of a set of financial, organisational and technical rules to provide Mobile P2P payment services like a Person to Person payment relying on mobile phone data as IBAN proxy data to its participants.

Remark: The Mobile P2P Scheme in the sense of this Framework could be a multibank scheme or could be provided by one electronic money institution or one bank only for its own customers. In the latter case, this service does not need to be presented as a scheme to the bank's customers.

The execution of a Mobile P2P Inter-Scheme transaction involves eight main actors:

- **Originator:** The initiator of a Mobile P2P Inter-Scheme service.
- The **Originator Scheme:** The Mobile P2P Scheme which is used by the Originator of the service.
- **Beneficiary:** The receiver of funds related to a Mobile P2P payment.
- The **Receiver Scheme:** The Mobile P2P Scheme which is used by the Beneficiary.
- The **Debtor Bank:** The bank which holds the account to be debited for the inter-scheme funds transfer.
- The **Debtor:** This is the account holder of the debtor account for the underlying funds transfer in the Inter-Mobile P2P scheme sphere. This is not necessarily the Originator of the Mobile P2P payment, in case of the usage of a clearing account by the Originator Scheme.
- The **Creditor:** This is the account holder of the creditor account for the underlying funds transfer in the Inter-Mobile P2P scheme sphere. This is not necessarily the Beneficiary of the Mobile P2P payment, in case of the usage of a clearing account by the Receiver Scheme.
- The **Creditor Bank:** The bank which holds the account to be credited by the inter-scheme funds transfer.



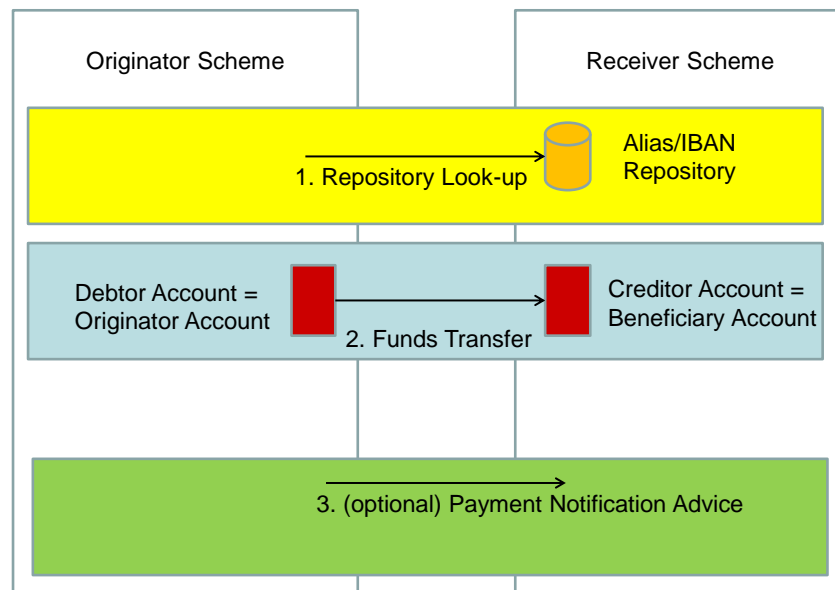
The actors are illustrated in the following diagrams, where different clearing scenarios are acknowledged.

Remark: The Originator Scheme is choosing the model in the Sphere of the Receiver Scheme. The Receiver Scheme is defining the model by parametrising the Repository Look-Up accordingly.

Remark: In the following different scenarios, a distinction is made between Debtor/Creditor Account and Originator/Beneficiary Accounts. All these accounts could be accounts of different banks. This is also true where Originator and/or Beneficiary Account is/are an electronic money account, which is/are not directly connected to the SEPA payment infrastructure.

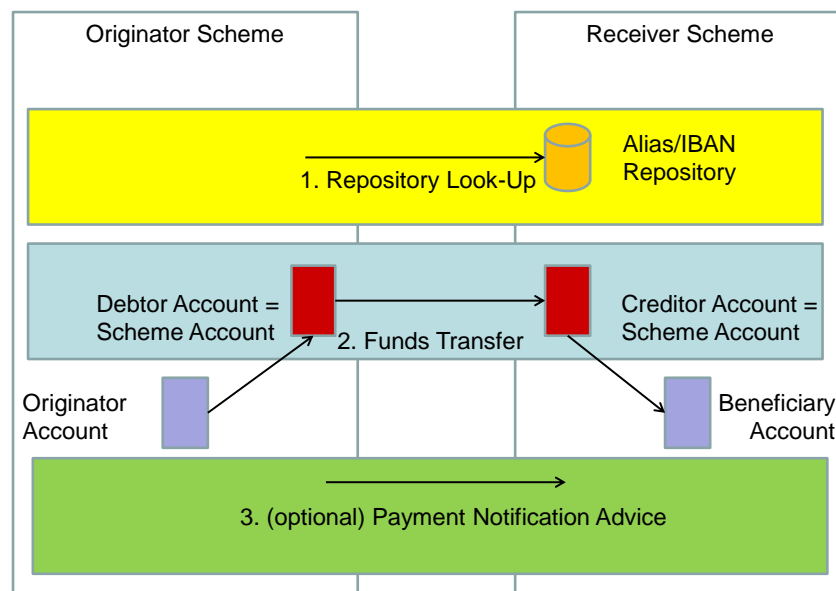
Scenario 1: Clearing Directly between Originator and Beneficiary Account

In this scenario, the clearing is performed directly between the customer accounts. The Originator Scheme initiates the funds transfer directly on the Originator Account in the Debtor Bank.:



Scenario 2: Clearing via Scheme Clearing Accounts in the Inter Scheme Sphere

In this scenario, the clearing is performed via clearing accounts of the respective Mobile P2P Schemes. The Originator Scheme initiates the funds transfer from its clearing account within the Debtor Bank. The collection of the funds from the Originator Account is organised within the Originator Scheme and is not part of the Mobile P2P Interoperability Framework. The same is valid for forwarding the funds from the clearing account of the Receiver Scheme to the Beneficiary Account.

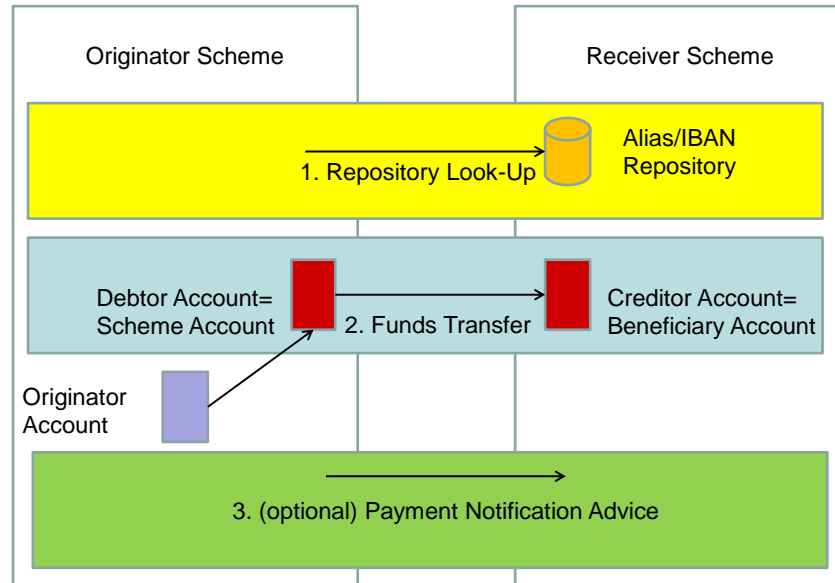


Scenario 3: Clearing between Originator Scheme Account and Beneficiary Account

The Originator Scheme initiates the funds transfer from its clearing account within the Debtor Bank. The collection of the funds from the Originator Account is organised within the Originator



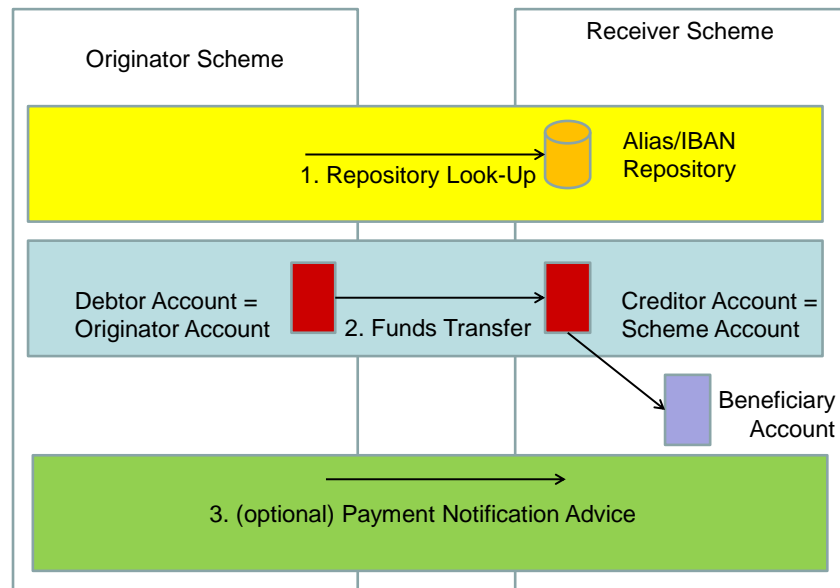
Scheme and is not part of the Mobile P2P Interoperability Framework. The funds are transferred from the clearing account of the Originator Scheme directly to the Beneficiary Account.



Scenario 4: Clearing between Originator Account and Beneficiary Scheme Account

The Originator Scheme initiates the funds transfer directly from Originator Account. The funds are transferred to a clearing account of the Receiver Scheme. The Receiver Scheme forwards the funds to the corresponding Beneficiary Account.

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3.2 Minimum Requirements of the Scheme Actors

Originator Scheme

For data protection reasons in some jurisdictions, the legal Name and/or the Account Number of the Beneficiary must not be shown to the Originator, if not agreed otherwise bilaterally between the Originator and Receiver Schemes. If the Receiver Scheme's response to the Originator contains the Beneficiary Name, it is indicated that no such specific data protection requirements regarding the name apply.



Receiver Scheme

Instantly notify the Beneficiary about the received funds, directly or indirectly. If the clearing account of the Receiver Scheme was used for crediting the funds, then the Beneficiary Account has to be credited following the rules of the Receiver Scheme.

For more precise rules see Section 4.5.



4 Operational Rules

4.1 Nature of the Mobile P2P Interoperability Framework

A Mobile P2P Inter-Scheme transaction is a payment governed by the Mobile P2P Interoperability Framework for making funds available real-time in euro by using mobile apps and using mobile phone numbers or other alias data as proxy information for account data.

The Debtor and Creditor must each hold an account with a participant to this Framework located within SEPA.

The funds transfer executed in accordance with the Framework is a separate transaction from the underlying contract on which they are based. The underlying contract is agreed on between the Mobile P2P schemes or is part of a multilateral contract.

The following key elements are included within the scope of the Framework: A set of inter-scheme operational rules, practices and standards for the execution of Mobile P2P inter scheme transactions in euro within SEPA.

4.2 Euro Currency

The Mobile P2P Interoperability Framework operates in euro in the inter-scheme interoperability space, independently of the currency of the Originator or Receiver Mobile P2P Scheme: All Mobile P2P Inter-Scheme transactions will be in euro at the inter-scheme level, including all functional parts of underlying payment instruments, if not agreed otherwise bilaterally between the involved Mobile P2P Schemes.

The accounts of the Debtor and of the Creditor may be in euro or any other currency. Any currency conversion is executed in the Debtor Bank or Creditor Bank. Any such currency conversion, including the related risks or margins for banks, is not governed by the Mobile P2P Interoperability Framework.

4.3 Transaction Types for Mobile P2P

The following transaction types are governed by business rules of the corresponding Mobile P2P schemes and are distinguished at the inter-scheme level:

- Mobile P2P Repository Look-up
- Mobile P2P Reachability Check
- Mobile P2P Funds Transfer



4.4 Compliance

Mobile P2P Schemes using this Interoperability Framework are required to follow a.o. Know Your Customer- and Anti-Money Laundering checks on a level as required for Payment Service Providers within the SEPA region.

4.5 Rules for Account Usage

Mobile P2P Schemes connecting following this Interoperability Framework need to agree which accounts are used for the underlying funds transfer.

Rules for the Debtor Account

If the Receiver Scheme delivers the Beneficiary name, it might be shown to the Originator of the transaction. If no Beneficiary name is revealed, the Originator Scheme needs to populate the corresponding field in the underlying clearing & settlement e.g. by letting the Originator type in the name or by taking the name out of the Mobile Phone contact list.

Rules for the Creditor Account

If the Creditor Account does not equal the Beneficiary Account, then it must be agreed, that an acceptance of the funds transfer mandates the Receiver Scheme to forward the payment amount in a certain time frame on the Beneficiary Account. This forwarding of funds shall be performed in the same time frame as transactions within the Receiver Scheme.

4.6 Calculations of Charging and Conversion

Conversion Rate

Requirements on conversion rates might be agreed on bilaterally between the related Mobile P2P Schemes. The requirements are out of scope of this Framework.

Rules for Fees

Rules for applicable fees are outside of this Framework and are defined by the underlying Mobile P2P schemes. Inter-Scheme-Fees might exist e.g. for currency conversion issues but are not related to single transactions within scope of this Framework. Fee related information is not transported within this Framework.



4.7 Rules for Exception Handling

The following transaction types are used for exception handling in the inter-scheme processing.

- Recalls: Recall Requests are dealt with at the clearing and settlement level.
- Rejections: Rejections are dealt with at the clearing and settlement level.
- Returns: Returns are dealt with at the clearing and settlement level, only applicable if SCT is chosen as underlying payment instrument.

4.8 R-Transactions for Non Euro Transactions

If transactions which have been processed in a non-euro currency are rejected, returned, or reversed, then it is recommended that the reconciliation amount in euro of these transactions including fees is resettled.

4.9 Rules for Payment Notification Messages

If SCT INST is used as underlying payment instrument, the following applies:

Payment Notification Messages are then used by the Originator Scheme only if the Receiver Scheme is indicating the need of Notification Messages within the Directory Look-Up Response Message.

Payment Notification messages are only sent after a positive funds transfer within the Mobile P2P transaction as defined in SCT INST.

If SCT is used for clearing and settlement instead of SCT INST, the following applies:

The usage of Payment Notification Messages is then highly recommended. The Notification Message are sent after the Originator Scheme has successfully initiated the SCT transaction at the Debtor Bank.

4.10 Rules for payment guarantee in case of SCT

If SCT is used for clearing and settlement, the Beneficiary may be informed of a successful Mobile P2P-transaction before the funds are actually credited to the Beneficiary account. Originator Scheme and Receiver Scheme then should agree bilaterally on means to secure availability of funds.

4.11 Non-Revocability by Originator

Successfully initiated funds transfers may not be revoked at the Debtor Bank by the Originator.



4.12 Priority Rule

If one or several responses which include an indication of a preference chosen by the Beneficiary in the repository level are received by the Originator Scheme, then the creditor data provided by the repository which indicates the most recent preference indication should be used by the Originator Scheme for the underlying credit transfer.

If none of the responses in the repository level received by the Originator Scheme contains an indication of a preference chosen by the Beneficiary, then the creditor data provided by the repository which indicates the most recent registration indication should be used by the Originator Scheme for the underlying credit transfer.



5 Inter Mobile P2P Scheme Data Model

In this section the abstract data model for Mobile P2P Inter-Scheme transactions is defined. The data attributes listed in this section will get numbers in the form "AT-nn" which are then referred to in [MP2P IG].

5.1 Repository Level

The repository level supports the core and mandatory Repository Look-up function, which retrieves Beneficiary name and account data from an alias. In addition, a Reachability Check is defined as an optional feature, where a Repository will only return whether an alias is known to this data base. This function tends to support features of the Originator Scheme, where the app indicates to its customers the reachability of contact list participants. The Reachability check then would be typically performed when new contacts are added to a customer's contact list on its mobile and where the contact is now participant to the app/Mobile P2P scheme of the customer.

5.1.1 Repository Look-up

The core look-up function divides into a Repository Look-up Request and a Repository Look-up Response. This look-up might be performed in sequence or in parallel with multiple directories. Any optimisation of the look-up might be chosen internally within the Originator Scheme, when compliant to the Priority Rule, cp. Section 4.12.

Repository Look-up Request

The look-up Request is defined by the following data attributes. These data attributes are mandatory if not said otherwise.

- Transaction Type: Mobile Pay Push Look-up Request
 - The request is to get IBAN data connected to an alias delivered within the request, where the IBAN is used afterwards as creditor account to transfer money to.
- Alias: Mobile Number or Email Address Beneficiary (AT – 01)
 - A mobile number or email address is transported in the Look-up Request as alias format for the beneficiary account. The alias follows a format which is dependent on the type of the alias. The type of a mobile number is "MSISDN" or "email". In a later phase, these aliases might be of different types like social network IDs or business IDs.



- Alias: Mobile Number or Email Address Originator (AT – 13)
 - The Originator Scheme might optionally add the Originator Alias (MSISDN or email address) . Receiver Schemes' customers might mandate the Receiver Scheme to provide personal IBAN data only to Originators which are on a customer's white list.
- Originator Scheme ID (AT – 02)
 - The Originator Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set.
- Receiver Scheme ID (AT – 03)
 - The Receiver Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set.
- Transaction Amount (AT – 04)
 - The transaction amount is an optional entry of the Look-up Request. The transaction amount is given in Euro. This amount might be used for risk management issues in a pre-validation. Transaction amounts in non-Euro are only permitted if the Receiver Scheme is supporting the related currencies.
- Look-up Request Reference Data (AT – 05)
 - The reference to the request in a transaction life cycle is a Request ID, unique per Originator Scheme and transaction.
- Message Timestamp (AT – 06)
 - A timestamp of the processing time of the Look-up Request is provided.

Repository Look-up Response

The Look-up Response is defined by the following data attributes. These data attributes are mandatory if not said otherwise.

- Transaction Type: Mobile Pay Push Look-up Response
 - The response delivers account data connected to an alias delivered within the request, where the account data is used afterwards as creditor account to transfer money to.



- Look-up Request Reference Data (AT – 05)
 - The response data contains the reference of the corresponding Look-up Request. Together with the Originator Scheme ID this allows a full matching of request and response.
- Response Result Yes/No (AT – 08)
 - This attribute indicates whether the alias could be matched to account data or not. When account data can be delivered it is a positive response, else a negative response.
- Reason Code (AT – 09)
 - This data attribute is an optional addition in case of a negative response. It is not used in case of a positive response.
- Originator Scheme ID (AT – 02)
 - The Originator Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set. (This is the Originator Scheme of the original Look-up Request.)
- Receiver Scheme ID (AT – 03)
 - This data element is optional in the response. The Receiver Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set. (This is the Receiver Scheme of the original Look-up Request.)
- Creditor Account Data (IBAN, Type "IBAN") (AT – 10)
 - The account data to be used for the corresponding inter Mobile-P2P scheme funds transfer in the clearing and settlement process and its type. As type only "IBAN" is admitted. This attribute is contained only in case of a positive response.
- Creditor Account Type Indicator (AT – 11)
 - This indicator is contained in case where the Creditor Account does not equal the Beneficiary Account, but is a clearing account of the Receiver Scheme.
- Name Beneficiary (AT – 12)



- The legal name of the Beneficiary as registered in the Receiver Mobile P2P Scheme following the KYC levels. This attribute is contained only in case of a positive response and is then an optional entry, due to possible data protection issues. This entry might be used for embargo and AML checks.
- Notification Message Link (AT – 14)
 - This data element is contained if the Receiver Mobile P2P Scheme requires the usage of Transaction Notification Messages on Application Level, cp. Section 5.3. This data element then consists of a path. The Originator P2P Scheme is required to post the corresponding notification on the URL consisting of the Receiver Mobile P2P Scheme website added by this path.
- Preference Indicator (AT – 15)
 - The Beneficiary might be registered in more than one Mobile P2P Scheme with the same alias. Some schemes allow their members to flag the scheme as preferred for receiving funds under an alias. Therefore, a preference indicator may optionally be provided in the Look-up response message. The indicator field contains the timestamp when the Beneficiary declared the Receiver Scheme as preferred.
- Registration Timestamp (AT – 16)
 - This data element contains information about date and time, when the Beneficiary has registered its account number with the Receiver Scheme. This timestamp might have influence on the selection of the Receiver Scheme in case of multiple responses to a Proxy Look-up Request.
- Message Timestamp (AT – 06)
 - A timestamp of the processing time of the Look-up Response is provided.

5.1.2 Reachability Check

The Reachability Check divides into a Reachability Check Request and Response. This look-up might be performed in sequence or in parallel with multiple directories and is an optional feature of this Mobile Interoperability Framework for the Originator Scheme and for the Receiver Scheme.



Reachability Check Request

The Request is defined by the following data attributes. These data attributes are mandatory if not stated otherwise.

- Transaction Type: Mobile Pay Reachability Check Request
 - The request is to get information whether the alias contained in this request is connected to any account data in the Repository of the Receiver Scheme.
- Alias: Mobile Number or Email Address Beneficiary (AT – 01)
 - A mobile number or email address is transported in the Reachability Check Request as alias format for the target account. The alias follows a format which is dependent on the type of the alias. The type of a mobile number is “MSISDN” or “email”. In a later phase, these aliases might be of different types like social network IDs or business IDs.
- Alias: Mobile Number or Email Address Originator (AT – 13)
 - The Originator Scheme might optionally add the Originator MSISDN or email address. Receiver Schemes' customers might mandate the Receiver Scheme to provide reachability information only to Originators which are on a customer's white list.
- Originator Scheme ID (AT – 02)
 - The Originator Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set.
- Receiver Scheme ID (AT – 03)
 - The Receiver Mobile P2P Scheme is identified in the message by a unique identifier. This data element might be encoded on different layer than the application data.
- Look-up Request Reference Data (AT – 05)
 - The reference to the request in a transaction life cycle is a Request ID, unique per Originator Scheme and transaction.
- Message Timestamp (AT – 06)
 - A timestamp of the processing time of the Reachability Request is provided.



Reachability Check Response

The Response is defined by the following data attributes. These data attributes are mandatory if not stated otherwise.

- Transaction Type: Mobile Pay Reachability Check Response
 - The response delivers information whether account data is connected to an alias delivered within the request.
- Look-up Request Reference Data (AT – 05)
 - The response data contains the reference of the corresponding Look-up Request. Together with the Originator Scheme ID this allows for a full matching of request and response.
- Response Result Yes/No (AT – 08)
 - This attribute indicates whether the alias could be matched to account data or not. When account data can be delivered it is a positive response, else a negative response.
- Reason Code (AT – 09)
 - This data attribute is an optional addition in case of a negative response. It is not used in case of a positive response.
- Originator Scheme ID (AT – 02)
 - The Originator Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set. (This is the Originator Scheme of the original Reachability Check Request.)
- Receiver Scheme ID (AT – 03)
 - This data element is optional. The Receiver Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set.
- Message Timestamp (AT – 06)
 - A timestamp of the processing time of the Reachability Response is provided.



5.2 Clearing and Settlement Level

For the clearing and settlement of the underlying funds transfer, the following SCT/ SCT INST data model is used:

- Debtor Name
 - If the Originator Scheme is clearing directly between the Originator Account and the Creditor Account, then the Originator is the Debtor. In any other case, the Originator Scheme² is the Debtor. The clearing towards the Originator Account is then handled within the Originator Scheme.
- Debtor Account
- Creditor Name
 - If the IBAN in the Repository Look-up Response is the IBAN of the Beneficiary Account, then the Beneficiary is the Creditor. In any other case, the Receiver Scheme³ is the Creditor. Anyhow, for the technical implementation, the corresponding Creditor Name field shall always be the name of the Beneficiary (AT -12) if present in the Look-Up Response. If not, the Originator Scheme might recover this name from the contact list of the Originator's mobile phone or the name might be typed in.
- Creditor Account
- Creditor ID
 - Alias of the Beneficiary, if addressable within payment initiation.
- Debtor ID
 - Alias of the Originator, if addressable within payment initiation
- End-to-End-ID

² The Originator Scheme might be represented by the bank providing the Originator Account.

³ The Receiver Scheme might be represented by the bank providing the Beneficiary Account



- The reference data of the Repository Look-up shall be used as the lifecycle ID of the funds transfer. This reference can then be used as reference between the Repository Look-up and the funds transfer.
- Remittance Information
 - The remittance information might be used to transport the Beneficiary and Originator Alias resp. the Transaction Reference data, where it is technically not possible for the Originator Scheme to initiate a payment with addressing the Creditor or Debtor Identification field resp. the End-to-End Identification field.
 - The remittance information might be further used to transfer text added to the MP2P transaction by the Originator in a fall-back where it is not possible to transport this information directly on application level, cp. Section 5.3.
- Purpose Code
 - The funds transfer shall have a dedicated Purpose Code to identify the nature of the transaction.

5.3 Application Level

The Mobile P2P Interoperability Framework introduces an additional optional level which is called Application Level. This level might be used if agreed bilaterally to notify the Receiver Scheme about a successful clearing of a Mobile P2P transaction.

Remark: This level would be used in future to support additional functions like the payment request.

5.3.1 Payment Notification

The function to inform the Receiver Scheme about successfully initiated payments is called Payment Notification and might be needed

- if the money is transferred directly to the Beneficiary Account,
- if additional information, e.g. media data is transferred to the Beneficiary or
- if SCT is used as Clearing & Settlement instrument.

In these cases it might be difficult for the Receiver Scheme to display the transaction within the App in time. (see also Step PM-01.13 of the process description in Section 6). If supported, this function is a notification without response by the Receiver Scheme.



Payment Notification Message

The Payment Notification is defined by the following data attributes. These data attributes are mandatory if not said otherwise.

- Transaction Type: Mobile Push Payment Notification
 - By this notification the Originator Scheme informs optionally the Receiver Scheme of the successfully completed Mobile P2P Push transaction and transports optionally additional information like media data.
- Alias: Mobile Number Originator (AT-13)
 - The same alias as in the corresponding Repository Look-Up Request is used.
- Alias: Mobile Number or Email Address Beneficiary (AT – 01)
 - The same alias as in the corresponding Look-Up Request is used.
- Originator Scheme ID (AT – 02)
 - The Originator Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set. The same Originator Scheme ID as in the corresponding Look-Up Request is used.
- Receiver Scheme ID (AT – 03)
 - The Receiver Mobile P2P Scheme is identified in the message by a unique identifier. This identifier is a string, using the SWIFT character set. The same Receiver Scheme ID as in the corresponding Look-Up Request is used.
- Transaction Amount (AT – 04)
 - The transaction amount is given in Euro. The same amount as in the corresponding Look-Up Request is used. Transaction amounts in non-Euro are only permitted if the Receiver Scheme is supporting the related currencies.
- Look-up Request Reference Data (AT – 05)
 - The reference to the request in a transaction life cycle is a Request ID, unique per Originator Scheme and transaction.
- Remittance Text



- The Originator Scheme might offer the Originator to add text to the Mobile P2P payment. This is then transported in the Notification Message in this field. This is an optional data element.
- Remittance Media Data
 - The Originator Scheme might offer the Originator to add additionally media data like pictures to the Mobile P2P payment. This might then be transported in the Payment Notification message on application level **if bilaterally agreed** between Originator and Receiver Scheme. This is an optional data element, where such a bilateral agreement exists.
- Timestamp Notification
 - A timestamp of the processing time of the Notification is provided.
- Settlement Instrument
 - The clearing and settlement method used in the underlying funds transfer, i.e. the constants "SCT" or "SCT_INST".



6 Process Description

For facilitating the reading of this document, structured identification numbers are used as follows:

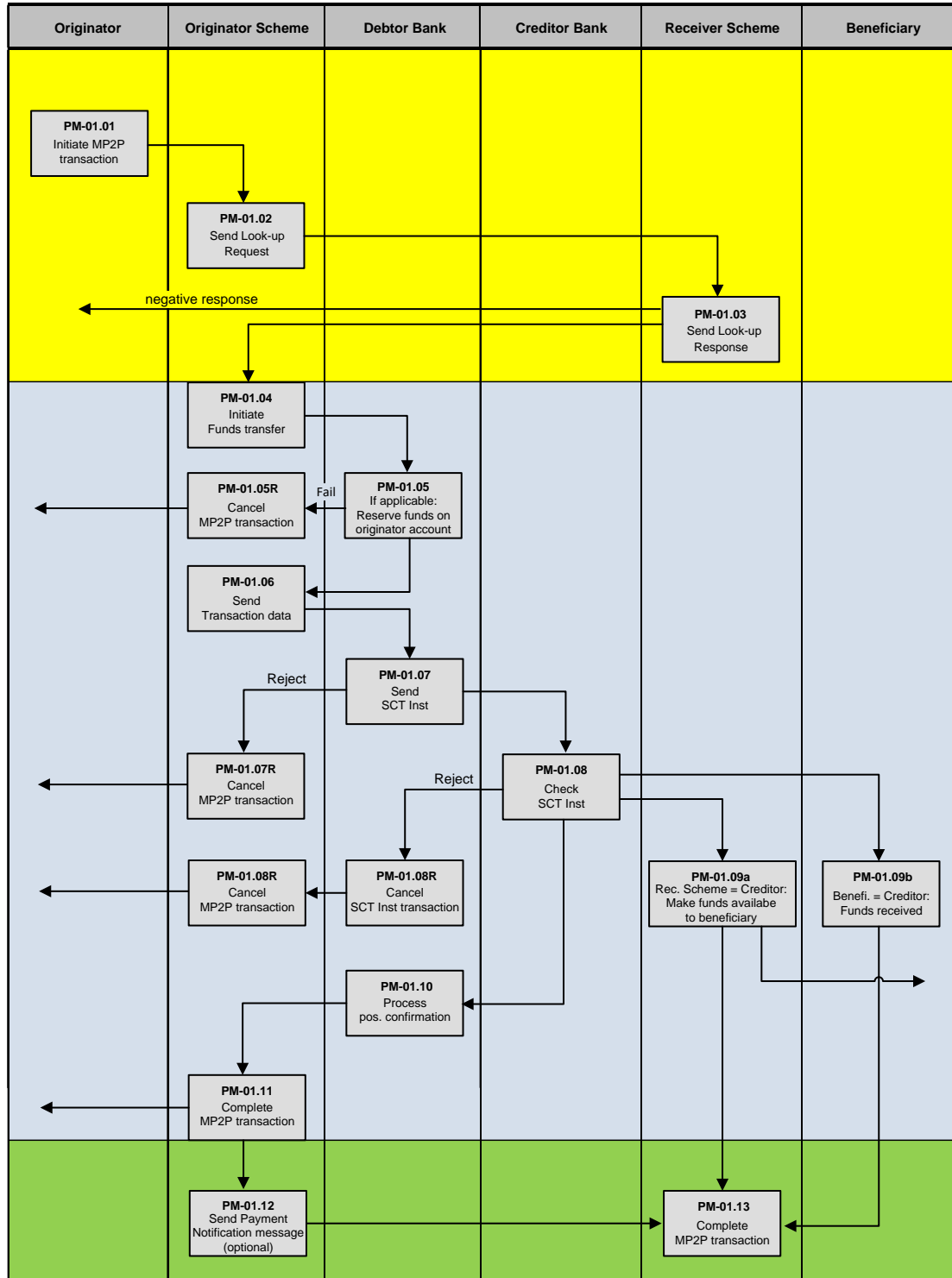
Process-steps: PM-nn.mm, where nn.mm is the unique sequence number in this document

The following diagrams show the process steps constituting a mobile peer-to-peer transaction. The detailed descriptions of the process steps are given below. The colours in the diagram depict the different levels of the Mobile P2P Interoperability Framework according to Section 1.

The detailed flows within the Originator Scheme or Receiver Scheme are depending on internal rules of the schemes. The implemented internal flows might deviate from the process flows shown below, as long as the operational rules from Section 4 are observed.



6.1 SCT INST based Scenario



The following process steps are valid if SCT INST is used as clearing and settlement method.

PM-01.01 – Initiate Mobile Peer-to-Peer transaction

The Originator initiates a mobile peer-to-peer transaction by using the mobile app of the Originator Scheme and entering the respective alias data.

PM-01.02 – Send Repository Look-up Request

The Originator Scheme checks the alias data supplied by the Originator and executes one or more Repository Look-up Requests. The requests can be sent to multiple directories. The look-up procedure is chosen internally within the Originator Scheme. The request conforms to the data format defined in chapter 5.1.

PM-01.03 – Send Repository Look-up Response

The Receiver Scheme checks whether the alias transmitted in the Look-up request is present in the scheme's directory and if the request can be answered positively or not. The Receiver Scheme sends the Repository Look-up Response to the Originator Scheme. The response conforms to the data format defined in chapter 5.1.

PM-01.3b – Negative Response

In case of a negative response (i.e. all responses to Lookup Requests sent by the Originator Scheme are negative), the Originator Scheme cancels the mobile peer-to-peer transaction and informs the Originator.

PM-01.04 – Initiate Funds transfer

The Originator Scheme determines which account to be debited. The Originator Scheme initiates the funds transfer and instructs the Debtor Bank to perform the funds reservation on the originator account (only applicable if the Originator Scheme is the Debtor) and thereafter perform the SCT INST transmission.

PM-01.05 – Reserve funds on originator account

This process step is optional and follows the Originator Scheme rules. If the Originator Scheme is the Debtor, the Debtor Bank makes a reservation of the amount on the account of the Originator. The Debtor Bank will inform the Originator Scheme about the outcome of the reservation.



PM-01.05R – Cancel Mobile Peer-to-Peer transaction

If the Originator Scheme receives a negative result of the funds reservation it cancels the mobile peer-to-peer transaction. The Originator Scheme informs the Originator about the negative outcome.

PM-01.06 – Initiate SCT INST

The Originator Scheme initiates the SCT INST at the Debtor Bank. The message format to initiate the funds transfer is agreed upon between Originator Scheme and Debtor Bank. It must be ensured, that the interbank SCT INST transaction as specified in [MP2P IG] is followed.

PM-01.07 – Perform SCT INST

The Debtor Bank checks if the transaction data sent by the Originator Scheme are formally correct and complete for starting the SCT INST funds transfer.

PM-01.07R – Cancel Mobile Peer-to-Peer transaction

The Debtor Bank rejects the transaction and informs the Originator Scheme about the rejection and its reason. The message format to transmit the rejection is agreed upon between Originator Scheme and Debtor Bank.

The Originator Scheme cancels the mobile peer-to-peer transaction and informs the Originator about the cancellation.

PM-01.08 – Receive SCT INST

If the Creditor Bank accepts the SCT INST transaction, a confirmation message is sent to the Debtor Bank following SCT INST rules and the funds are made available to the Creditor, i.e. Receiver Scheme resp. the Beneficiary. The account holder is informed with usual bank measure about the funds entry.

PM-01.08R – Cancel SCT INST transaction and cancel mobile peer-to-peer transaction

If the SCT INST checks of the Creditor Bank fail, the Creditor Bank sends a rejection message to the Debtor Bank following SCT INST rules.

The Debtor Bank cancels the SCT INST transaction and, if applicable, removes the reservation of funds on the account of the Originator. The Debtor Bank informs the Originator Scheme of the rejection.

The Originator Scheme cancels the mobile peer-to-peer transaction and informs the Originator about the negative outcome.



PM-01.09a – Make funds available to beneficiary

The Receiver Scheme receives the funds on its creditor account. The Receiver Scheme makes the funds available to the Beneficiary following the Receiver Scheme rules and informs the Beneficiary about the transaction with its usual scheme measures, e.g. via an App on a mobile phone, see PM-01.10.

PM-01.09b – Funds received

The Beneficiary receives the funds directly on his account from an SCT INST transaction initiated by the Originator scheme. The solution how to inform the Receiver Scheme about the money received is up to the Receiver Scheme. If agreed bilaterally, the Originator Scheme informs the Receiver Scheme by using a Mobile Payment Notification, see process step PM-01.13.

PM-01.10 – Process positive confirmation

The Debtor Bank receives the positive confirmation message from the Creditor Bank and informs the Originator Scheme.

PM-01.11 – Complete mobile peer-to-peer transaction

The Originator Scheme receives the confirmation from the Debtor Bank and completes the mobile peer-to-peer transaction. The Originator Scheme notifies the Originator that the funds transfer was successful.

PM-01.12 – Send Mobile Payment Notification message

If the following criteria are fulfilled

- The Originator Scheme initiated the credit transfer directly onto the Beneficiary account
- The Originator Scheme received a positive confirmation message
- It is agreed bilaterally between Originator Scheme and Receiver Scheme

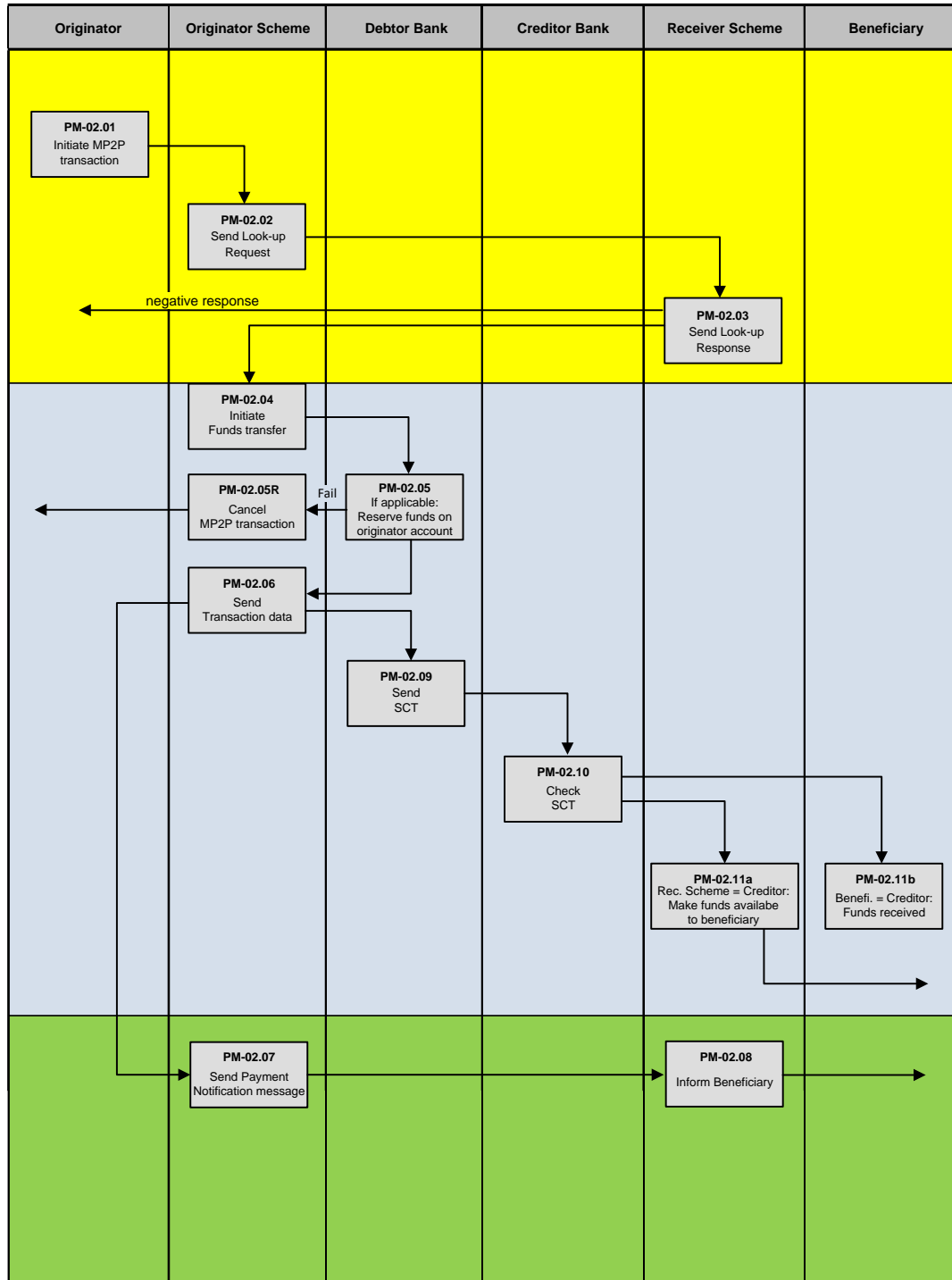
the Originator Scheme sends a Mobile Payment Notification message, according to chapter 5.3, to the Receiver Scheme.

PM-01.13 – Complete mobile peer-to-peer transaction

The Receiver Scheme completes the mobile peer-to-peer transaction and notifies the Beneficiary in the Mobile P2P App that the funds are immediately available.



6.2 SCT based Scenario



The following process steps are valid if SCT is used as clearing and settlement method.

Process steps PM-02.01 to PM-02.05 (including PM-02.05R) are identical to the SCT INST process steps PM-01.01 to PM-01.05 (including PM-01.05R), respectively.

PM-02.06 – Initiate SCT

The Originator Scheme initiates the SCT at the Debtor Bank. The message format to initiate the funds transfer is agreed upon between Originator Scheme and Debtor Bank. It must be ensured, that the interbank SCT transaction as specified in [MP2P IG] is followed.

PM-02.07 – Send Payment Notification Message

After initiating the SCT, the Originator Scheme must immediately send a payment notification message to the Receiver Scheme.

PM-02.08 – Inform Beneficiary

The Receiver Scheme informs the Beneficiary that the Mobile P2P transaction has been performed.

PM-02.09 – Perform SCT

The Debtor Bank submits the SCT to the interbank space.

PM-02.10 – Receive SCT

The Creditor Bank receives the SCT transaction and processes it following SCT rules.

PM-02.11a – Make funds available to beneficiary

Depending on the actual clearing scenario, the Receiver Scheme receives the funds on its creditor account. The Receiver Scheme makes the funds available to the Beneficiary following the Receiver Scheme rules and informs the Beneficiary about the transaction with its usual scheme measures.

PM-02.11b – Funds received

Depending on the actual clearing scenario, the Beneficiary receives the funds directly on his account from an SCT transaction initiated by the Originator scheme.



7 References

- [MP2P FS] Technical Feasibility Study on pan-European Mobile P2P Interoperability, Joint Initiative pan-European Mobile P2P Interoperability, Version 1.0, 15 January 2016

This document gives a background on the Framework and business and functional requirements. This document is published on <http://www.berlin-group.org/mobile-p2p-interoperability>.

- [MP2P IG] Mobile P2P Interoperability Framework, Implementation Guidelines, Joint Initiative pan-European Mobile P2P Interoperability, Version 1.1, 20 March 2020

This document contains detailed interface specifications of all related levels.

