TARGET Instant Payment Settlement

User Handbook for MPL Operator

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Terms and abbreviations

The terms and abbreviations used in the User Handbook are shown in the table below. You will find terms with their description and the abbreviations, both in an alphabetical order.

Letter	Description
A	
A2A	Application-to-application
B	
BIC	Business Identifier Code
C	
CB	Central Bank
CMB	Credit Memorandum Balance
D	
DD	Day (e.g. used within the timestamp, every letter stands for one digit)
d	Decimal number
E	
e.g.	For example (Latin: ‘exempli gratia’)
G	
GUI	Graphical User Interface which is a type of interface which allows users to interact with electronic devices
H	
hh	Hour (e.g. used within the timestamp, every letter stands for one digit)
I	
i.e.	That is (Latin: ‘id est’)
M	
MM	Month (e.g. used within the same timestamp, every letter stands for one digit)
mm	Minute (e.g. used within the timestamp, every letter stands for one digit)
µs	Millisecond (e.g. used within the timestamp)
min.	Minimum
Max.	Maximum
N	
NRO	Non-repudiation of origin (NRO) provides the recipient (TIPS) with the evidence NRO which ensures that the originator (TIPS actor) will not be able to deny having sent the U2A instruction. The evidence of origin is generated by the originator and held by the recipient.
R	
Radio button	A type of GUI element which allows the user to choose only one of a predefined set of options.
S	

Letter	Description
Select box	A select field in the GUI with an arrow on the right side. By clicking on the arrow, all possible input values are shown and can be selected with a mouse-click.
ss	Second (e.g. used within the timestamp, every letter stands for one digit)
T	
Timestamp	A sequence of characters, denoting the date and the time in TIPS.
U	
UHB	User Handbook
U2A	User-to-application
Y	
YYYY	Year (e.g. used within the timestamp, every letter stands for one digit)

1. Introduction

This document contains a description of the Mobile Proxy Lookup (MPL) U2A related functions, available exclusively to the MPL Operator.

2. Overview of the User Handbook

The MPL User Handbook, hereinafter called UHB, aims at facilitating the use of the Graphical User Interface (GUI) of MPL. It is intended for MPL Operator users regardless of the focus of activities and describes the full range of functionalities available in user-to-application (U2A) mode. The GUI component includes all the necessary elements to provide the authorised users with the possibility to query and to amend the local reference data (i.e. Proxy-IBAN Mapping Table data) that shall be maintained on a 24/7/365 basis.

The UHB is part of the functional documentation and complements the User Detailed Functional Specifications (UDFS). The UDFS is particularly relevant for UHB readers willing to get more information on the general concepts described in the previous chapter. Although it is mainly focused on the application-to-application mode (A2A), chapter one of the UDFS contains a detailed description of the business concepts used in MPL, which are also relevant when using the GUI.

2.1 UHB Methodology

Several symbols and methodological elements are used throughout the MPL UHB to ease orientation and help the reader to find the desired information quickly. Every page of the main UHB parts has a similar page layout. The reader can find four different elements:

- The header, which shows the chapter and sub-chapter title;
- The margin column on the left side of each page, which is used for subheadings and information signs;
- The text column, which contains the main information, tables and screenshots;
- The footer, which shows the page number.

2.2 UHB Structure

The UHB is structured in five parts:

Part 1 The **Introduction.** An extensive description of the MPL service can be found in the MPL UDFS.

Part 2 The **Overview of the User Handbook** explains the content and the approach of both the document and the GUI. While the first section explains how to use the UHB, the second section focuses on the design and common functionalities of the GUI.

Part 3 The **Screen Reference guide** part describes all the screens contained in the GUI. Each description follows an identical structure which comprises detailed information on all screen fields. Readers may refer to this part if they need detailed and precise information on a screen, field or button.

2.3 Overview of the Graphical User Interface

The GUI is a browser-based application for communication with MPL in U2A mode. It is based on the ISO norm 9241 'Ergonomics of human system interaction'.

MPL provides MPL Actors with a Graphical User Interface offering basic functionalities to access information and controls (e.g. U2A queries, local reference data maintenance). The complete list of functions available 24/7/365 via the MPL GUI is as follows:

Table 1 – Functions available in MPL GUI

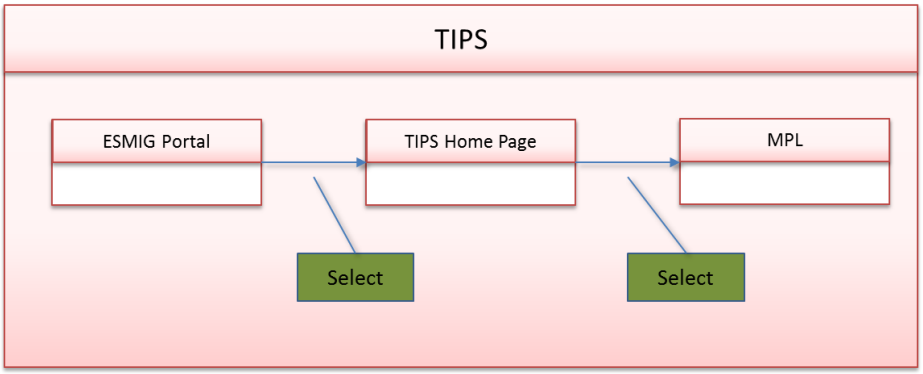
Type	Description
Query	Proxy-IBAN Mapping Table query
Local reference data	Create Proxy-IBAN Mapping Table entry
Local reference data	Delete Proxy-IBAN Mapping Table entry
Local reference data	Update Proxy-IBAN Mapping Table entry

2.3.1 Sitemap

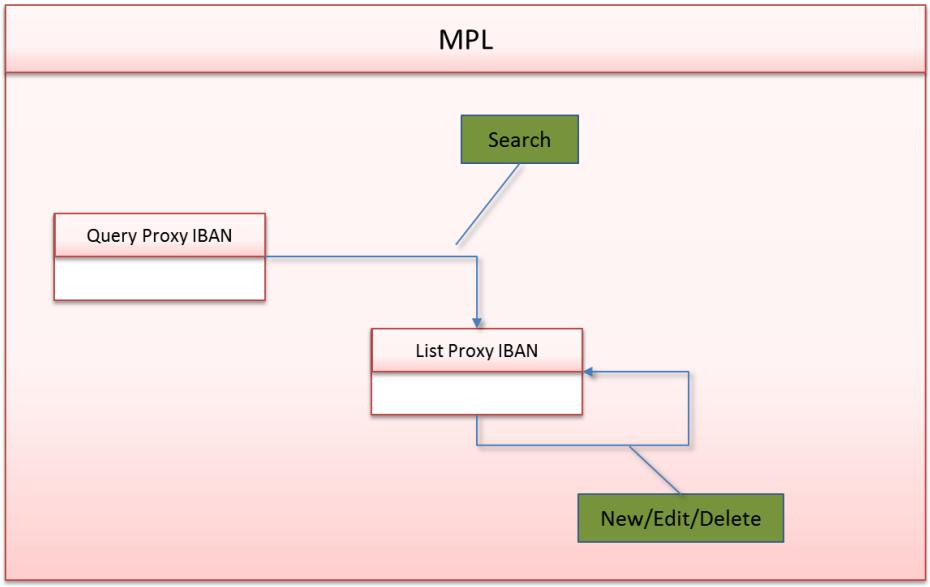
This section provides formalised illustrations of screens (pictured as pink rectangles) and their related actions (pictured as green rectangles). The illustration helps to get an overview of all GUI screens and their relationships, indicated by the arrows.

The header indicates the GUI menu item pictured by the sitemap. The single GUI screens are pictured following their business logic, starting with search/list screens, following with details or enter.

2.3.1.1 Homepage



2.3.1.2 MPL



2.3.2 Setup and login process

Before entering the GUI, make sure that your workstation complies with the hardware and software requirements and implement all necessary preparations (e.g. firewall settings) described below.

Such requirements/preparations may be subject to periodical review/update to comply with changing technical/regulatory scenario.

Hardware requirements

The following hardware requirements are needed:

- Processor: 1 GHz or faster with support for PAE, NX, and SSE2;
- RAM: 1 GB (32-bit) or 2 GB (64-bit);
- Hard disk space: 16 GB (32-bit) or 20 GB (64-bit);
- Graphics card: Microsoft DirectX 9 graphics device with WDDM driver.

Software requirements

- Windows 7 OS required as OS;
- JRE Version: 1.8.0_31 or higher (remark: additional constraints coming from VAN providers to be verified).

Supported Web-Browsers and Settings

- The following web-browser is supported:
  - Microsoft Internet Explorer (11)
- Java script and java applets are used for validations on the client side therefore 'JavaScript' and 'Cookies' have to be set to 'enabled'.

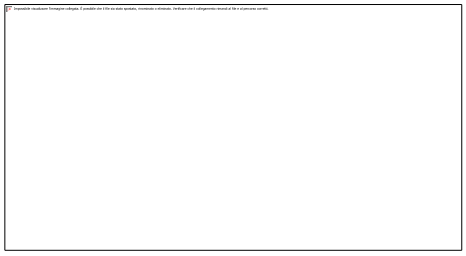
According to current Microsoft plans, IE11 will be supported till end of October 2020 and the 4CB plan to keep it in the qualified configurations accordingly. The complete redefinition of the qualified browsers' set and the full replacement of the applet technology will be then defined in the context of the Eurosystem Singe Market Infrastructure Gateway, being part of the ongoing T2/T2S consolidation project in line with the agreed schedule.

GUI Access

- Users are directed to an initial page named ESMIG portal that ensures proper routing to the web applications the user has been granted to enter.

NRO specific requirements

The applet installation on MPL user side will be triggered with the first attempt to sign an instruction (and each time the user needs to sign one) and is transparent to users once the security warning asking for IBM applet installation is explicitly accepted by the user:



For security reasons, the applet (jar) archive delivered by the provider will be code signed by a trusted certification authority (Thawte) to ensure applet integrity on customer side.

In order to properly execute Thawte certificate revocation checks, customer should ensure proper Certificate Distribution List availability; these could be downloaded from the Internet at the following URLs:

- http://crl.thawte.com/ThawtePremiumServerCA.crl
- http://crl.thawte.com/ThawtePCA.crl
- http://th.symcb.com/th.crl

The MPL users have to ensure that the security settings of their institutions, i.e. firewalls, allow for installation of the applet.

2.3.3 GUI Structure

This chapter explains the basic elements of the MPL GUI structure (i.e. structure of the menu and the screens) helping you to navigate through the system and to use it quickly and efficiently.

The first subsection describes the menu structure where screens are grouped hierarchically. Then, the second subsection explains the layout structure common to all screens. The following subsections provide details on the different screen types and on recurring elements, such as common field types or buttons and icons.

2.3.3.1 Menu Structure

The GUI menu is structured into one hierarchical menu level. The level is presented as a menu bar containing the menu items which are always visible on top of each screen.

Depending on the user access rights, it is possible that not all menu entries are visible. The user can contact its system administrator to verify that all the necessary Privileges to access all screens have been granted. The Privileges are listed in each screen and business scenario description.

Screenshot To be added.

2.3.3.2 Screen Structure

In general, each screen of the MPL GUI follows the same layout containing a header and a content area.

Header The header appears at the top of every screen. It contains the main elements providing useful information and helping the users to navigate between the different screens as shown in the illustration below

Screenshot with header elements To be added.

Table 2 – GUI header elements

Position	Element	Description
1	*TIPS logo* button	The element links to the welcome screen. While using the *new/edit* screens, the *TIPS logo* button is locked in order to ensure a safe and complete submission process.
2	Information panel	It displays the login name, the *logout* and *help* buttons as well as date and time of last data access.
3	Menu bar	It presents the menu items and allows the user to navigate to the screens.
4	MPL Actor logo	It displays the respective logo in accordance with the chosen MPL Actor in line with the white-labelling approach.

Content Areas The content area is the part of the GUI where the user can trigger all business actions. It is organised by four main elements which help to interact properly with the GUI as shown in the illustration below.

Screenshot To be added.

Position	Element	Description
1	Breadcrumb	Shows the main path to the current screen
2	Print icon Refresh icon	Prints the screen content Reloads the screen
3	Frame and sub-frame title	Groups related information as a structural function
4	Button bar	Shows all available buttons for the current screen

The MPL GUI consists of the following types of screens, each with a different function:

- *Welcome* screen
- *Search/List* screen
- *Enter* screen

Welcome screen

The *welcome* screen is the entrance into the MPL GUI. It also contains a ticker lin providing the user with the latest information. The ticker is managed by the MP Operator.

Search/List screen

The *search/list* screen allows the user to query the MPL database using a predefined set of search criteria. After executing a search, a list of data records matching the search criteria is displayed in a table.

Enter screen

The user can only access the *enter* screens through the main menu. This type of screen is used to enter reference data modification.

2.3.3.3 Field types and properties

On *search/list* and *enter* screens, users can enter information via input fields and select fields. Pre-filled information is displayed in read-only fields.

Input fields

In input fields the user can enter text and/or numeric content. The format requirements, which are part of each field/screen description, shall be fulfilled. Input-sensitive fields are input fields with an auto-complete mode that help the user to input data. As soon as the user starts typing the first characters of the respective data into an input-sensitive field, MPL automatically proposes possible matching entries from which the desired one can be selected.

Select fields

Select fields are either select boxes, radio buttons or check boxes.

- Select boxes: Functionally a select box is a way to enter data from a limited list of possible values. In MPL you can find different types of select boxes: standard select box and auto-complete select box. You can select only one value at a time.

- Radio buttons: Enable the user to make exact selections using one value from a set of options. Only one value can be selected at a time. The user shall click on the icon corresponding to the option they would like to select.
- Check boxes: Enable the user to select more than one value at the same time. The user shall click on the boxes corresponding to the options they would like to select. Selected check boxes contain a check mark.

In addition to input and select fields, the MPL GUI has also read-only fields, which are pre-filled and do not allow data changes.

Field Properties

MPL fully supports UTF-8 Character Set .

Following the SEPA Instant Credit Transfer specifications, the character set is restricted for references and identifiers to support the Latin characters which are commonly used in international communication.

The complete list is as follows:

Table 3 – MPL character set

Character	Description
a - z	26 small characters of the Latin alphabet
A - Z	26 capital characters of the Latin alphabet
0 – 9	10 numeric characters
/	Solidus (slash)
-	Hyphen
?	Question mark
:	colon
(	Opening parenthesis
)	Closing parenthesis
.	Full stop
,	Comma
'	Apostrophe
+	Plus
	Space (blank)

As additional rules, it is required that references, identifications and identifiers must not start nor end with '/' or contain '//'.

2.3.4 Validation

Front-end validation

In MPL all submission processes undergo various validations, which take place in the front-end and/or in the back-end. Only correct entries, fulfilling all predefined criteria, can be further processed. To indicate the status of the recently performed action, MPL uses two different types of messages to indicate a successful or failed validation as described below.
Furthermore, non-repudiation of origin (NRO) is implemented for a specified number of screens.
As first part of the validation process, the front-end validation takes place without communication to the back-end. The front-end validation includes both the field validation and the cross-field validation. It is carried out after clicking on a button. The field validation verifies that all entries comply with the required format. The cross-field validation checks the data consistency between two or more fields/buttons in relation to

each other.

Back-end validation

The back-end validation is the second part of the validation process. After successful front-end validation, the user's request is submitted to the back-end and checked for compliance with the business validation rules. In case of failure an error message is displayed. You can find a detailed list of all error messages and their description in the annex of the UHB (list of references for error messages).

Result

After each validation, the MPL GUI informs the user about the result. There are two different message types available, the error message and the success message.

Error Message

Each error message appears at the top of the content area and next to the field containing the error. In the case of a failed front-end or back-end validation, it indicates the source of the failure, the type of error and a short hint.

Success message

If the operation is successful, the user receives a success message.

2.3.5 Communication Network and services

Refer to the TIPS Connectivity Guide document for details on the communication network and services.

2.3.6 User Administration

Only registered users have access to the MPL GUI, therefore registration to the network is necessary prior to the first GUI access. The Registration Guide provides information on how to fill in Registration Forms properly, e.g. access rights.

2.3.7 Security and administration service

In order to guarantee a secure and safe handling of the information and to protect customer data provided via the GUI, various security elements have been put into place:

- Each action requires system and/or human validation as described in the validation;
- The scope of available data and functions is controlled via the management of access rights;
- The security features provided by the network providers and described in their respective user documentation prevent unauthorised access.

3. Screen Reference Guide

3.1 Queries

3.1.1 Query MPL

The MPL query allows the actor to get the detailed information for IBANs. MPL allows actors to query IBANs that are related to a specific proxy digest, i.e. a hashed value of the mobile number. This screen is available to the MPL Operator only.

3.1.1.1 Query Proxy IBAN – Search screen

Context of Usage

This screen contains two search fields: the proxy digest (i.e. a hash value of the mobile number) and the Person ID (a digest of the country code and a unique national identifier of the person). The user can search the detailed information on the IBAN linked to the proxy digest or Person ID (different IBANs, with different validity periods, can be linked to the same proxy digest/Person ID) by inputting only one of the two possible search criterion. The relevant data that will appear in the lower part of the screen, can only be viewed by users of MPL Operator.

Screen Access

- MPL >> Search/List screen

Privileges

To use this screen, the following Privileges are needed:

- TIP_Query
- MPL_Query

Screenshot

To be added

Field description

Query Proxy IBAN: Search criteria	
Object	**Required format**
Proxy	Max. 64 characters. Format is: 64 digits The use of this field is alternative to the field “Person ID”, but at least one of these fields shall be filled. References for error messages: [▶]: - X050
Person Identification	Max. 64 characters. Format is: 64 digits The use of this field is alternative to the field “Proxy”, but at least one of these fields shall be filled. References for error messages: [▶]:

	❙ X050

Buttons

Search	This function enables the user to retrieve the information on the token IBAN related to the selected search criterion. References for error messages: [⏵]: ❙ X050
Reset	This function enables the user to set the field to default value

3.1.1.2 Query Proxy IBAN – List Screen

Context of Usage This screen displays detailed information on the IBAN connected to the proxy digests. There can be more than one IBAN linked to the same proxy digest with different validity periods. Data can only be viewed by users of the MPL Operator. This function is available only in U2A mode.

Screen Access
❙ MPL >> Search/List Screen >> Click on the Search button

Privileges To use this screen, the following Privileges are needed:
❙ TIP_Query
❙ MPL_Query

Screenshot To be added

Field description

Query Proxy IBAN: Results	
Object	**Required format**
Proxy	Shows the digest of the proxy, i.e. the hashed value of the proxy type (always 'MSDN') and proxy (phone number) of the Beneficiary Required format is: 64 digits
Valid from	Shows the date from which the token IBAN is valid for the displayed proxy digest. Displayed format is: YYYY-MM-DD hh:mm:ss References for error messages: [⏵]: ❙ E306
Valid to	Shows the closing date of the listed element. Displayed format is: YYYY-MM-DD hh:mm:ss References for error messages: [⏵]: ❙ E306
IBAN	Shows the IBAN. On the same date there can one and only one IBAN linked to the proxy digest. On the other side, many proxy digests can be linked to the same IBAN on the same date.
Requestor Party	Shows the BIC of the MPL Participant that requested the creation of the Proxy-IBAN mapping. Required format is: BIC11
Person Identification	Shows the digest of the Person Identification , i.e. the hashed value of a two-character country code followed by a unique national identifier.

	Required format is: 64 digits
Authorized BIC	Shows the BIC associated to the IBAN in order to instruct a payment. Required format is: BIC11
Account Owner	Enter the name of the owner of the Account to which the IBAN is linked.
Preference indicator	Shows the date and time in which the relevant IBAN was selected as preferred by the Account owner. Displayed format is: YYYY-MM-DD hh:mm:ss To be used in the future.

Buttons

Edit	This function enables you to edit the details of the selected Proxy IBAN. Next screen: ❙ MPL – edit screen [▸]
Delete	This function enables you to delete the selected Proxy IBAN. Next screen: ❙ MPL – search/list screen [▸] Reference for error messages: [▸] ❙ E306
New	This function enables you to create a new Proxy IBAN. Next screen: ❙ MPL – new screen [▸]

3.2 MPL

3.2.1 MPL maintenance functionality

In contingency situations (i.e. the MPL Participant is not able to act on its MPL data) the Proxy-IBAN element of the mapping table can be maintained (i.e. created, deleted and edited) in U2A mode by the MPL Operator only.

3.2.1.1 MPL – New/Edit screen

Context of Usage This screen contains a number of fields regarding the link between an IBAN and its proxy digest. The MPL Operator can enter new data or edit existing data. Afterwards you can proceed further by clicking on the buttons below. This function is available U2A for the MPL Operator only.

Screen Access ❙ MPL >> *Search/List* Screen >> Click on the *New* or *Edit* button

Privileges To use this screen, the following Privileges are needed:
- ❙ MPL_Query
- ❙ MPL_Maintenance

Screenshot To be added

Field description

Proxy IBAN	
Proxy Digest	Enter the digest of the proxy number (i.e. the mobile number). Reference for error messages: [▸] ❙ E307
Person Identification	Enter the digest of the Person Identification , i.e. the hashed value of a two-character country code followed by a unique national identifier. Required format is: 64 digits
IBAN	Enter the IBAN linked to the proxy digest. On the same date there can one and only one IBAN linked to digest of the proxy. On the other side, many proxy digests can be linked to the same IBAN on the same date.
Requestor Party	Enter the BIC of the Participant that requested the creation of the Proxy-IBAN element.
Authorized BIC	Enter the BIC to which the payment shall be addressed
Account owner	Enter the name of the owner of the Account to which the IBAN is linked. This field is optional.
Valid from	Enter the date and time from which the element to be created is valid. The field is read-only in Edit mode. Required format is: YYYY-MM-DD hh:mm:ss Reference for error messages: [▸] ❙ E304 ❙ E307
Valid to	Enter the date and time until which the Proxy IBAN is valid. Required format is: YYYY-MM-DD hh:mm:ss Reference for error messages: [▸] ❙ E307 The field is optional.
Preference Indicator	Enter the date and time from which the relevant IBAN is selected as preferred by the Account owner. Required format is: YYYY-MM-DD hh:mm:ss The field is optional. To be used in the future.

Buttons

Submit	This function enables you to create or edit a Proxy IBAN. Next screen: ❙ *MPL link – search/list* screen [▸] Reference for error messages: [▸] ❙ E304 ❙ E307

Reset	This function enables you to set all fields to default value and blanks out all optional fields. Next screen: ❙ *MPL link – new/edit* screen [▶]
Cancel	This function enables you to cancel the process and return to the previous screen. Next screen: ❙ *MPL link – search/list* screen [▶]

4. Annex

4.1 Reference for error messages for GUI screens

This section includes a list of references for error messages for all GUI screens. Each error code table entry includes the error text and the description.

4.1.1 Error Codes

Reference for error message	Business check	Field or Button	Error text
X050	The Proxy-IBAN Mapping table contains at least one entry with the following attributes: "Person ID" field equal to the "Proxy Search Criterion" Personal Data Retrieval Request.	Query Proxy IBAN – Search screen ▌Proxy field ▌Person Identification field ▌Search button	Personal data not found.
E304	The Valid From timestamp must be equal to or greater than the current timestamp.	MPL – New/Edit screen ▌Valid From field ▌Submit button	Valid From invalid.
E306	A Proxy-IBAN Mapping Table row can be deleted when its Valid From timestamp is later than the current timestamp or its Valid To timestamp is earlier than the current timestamp.	Query Proxy IBAN – List screen ▌Valid From field ▌Valid To field ▌Delete button	Proxy-IBAN Mapping table entry not expired.
E307	The same Proxy cannot be referenced in more than one Proxy-IBAN Mapping Table entry over the same validity period (defined by the respective Valid From and Valid To timestamps).	MPL – New/Edit screen ▌Proxy digest field ▌Valid from field ▌Valid to field ▌Submit button	Proxy already defined.