

Product documentation

Digital Banking - Personalized & Secure Messaging

Version, Date

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This document may show or describe functionality that is optional to the CLX Digital Banking Suite and that is not included in the base package. The document reflects the current development stage and may be subject to change without further notice.

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Document	Date	Source

1. Introduction

1.1. Motivation

This product documentation presents the complete messaging functionality of the CLX Digital Banking 2.0 Customer Client, which consists of:

- The basic messaging centre to send secure messages to the bank and receive messages from the bank.
- The enhanced messaging (personalized messaging module) to communicate with secure message to different bank representatives, i.e. the bank advisor. This includes an integration with the E-Mail System of the bank. For further details please, ref. to chapter [4].

CREALOGIX introduces a state-of-the-art GUI tailored to various devices, enhancing the overall user experience and productivity. The messaging centre will be simplified without reducing the scope of functionality and information content.

1.2. Requirements

1.2.1. Business Requirements

ID	Description
B01	Simple inbox displaying by default chronologically all received messages.
B02	Provide comprehensive search and filtering functionality
B03	Custom search for selecting predefined filters
B04	Direct switch between folders
B05	Support of personal folders
B07	Category - Classification of messages
B08	Icons to indicate unread messages, importance and attachments
B09	Simple drilldown
B10	Actions for multiple messages (delete, move and download)
B11	Attachment download
B12	Download multiple attachment as zip archive
B13	Standard sorting and grouping of table views
B14	Paging
B15	Support of following types of standard message boxes: archive, outbox, deleted
B16	Support of message importance (normal, high)
B17	UI suits also the needs for personalized messaging

1.2.2. Security Requirements

ID	Description
S01	Attachment upload optional due to risk of virus (anti virus with Airlock option)

2. Implementation CLX Digital Banking

This functional description affects the following CLX Digital Banking modules:

- Core module

2.1. Customer Client

The customer client is the only application which is affected from the GUI changes.

2.1.1. Navigation menu

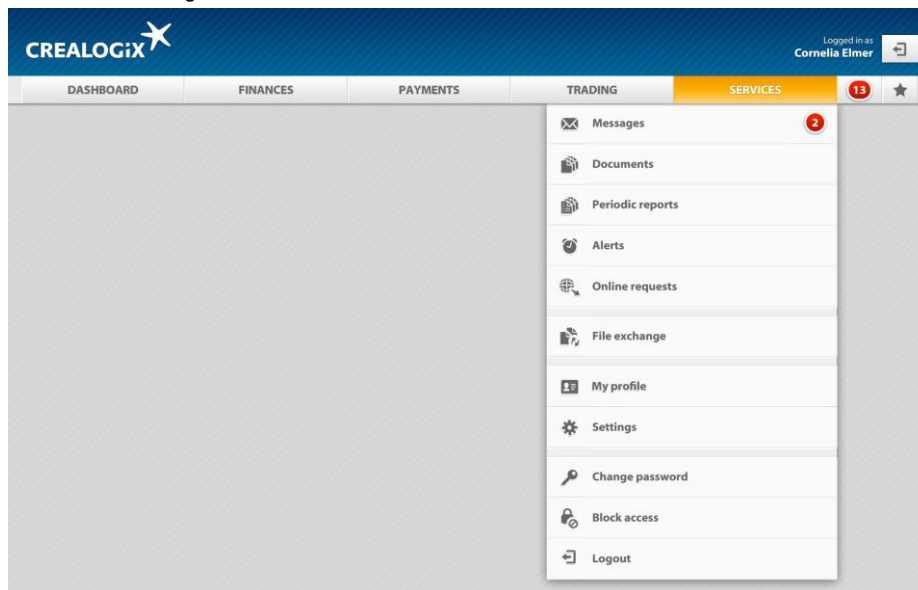


Figure 1: Navigation

Menu items

- **Messages:** The user gets an overview of the messages received. See chapter 2.1.3.

2.1.2. Important messages

A client advisor sends an important message to the client. This/these message(s) will be shown with a ! mark on the message overview.

create/edit message

sender1000541501 - Freddy Hinz

subject

topicChoose topic

text

Send to other recipients

customer advisorAdministrator MDBsus

email address

notes

importanceurgent

attachmentBrowse...

back

add attachment

send

Figure 2: AdminClient: Importance

2.1.3. Messages

Shows a table with the messages received from the bank. Unread messages are indicated with a blue dot in the front and urgent one with specific icon. A disclaimer show how long the messages will be saved in this view.

CREALOGIX

Logged in as
Cornelia Elmer

DASHBOARDFINANCESPAYMENTSTRADINGSERVICES13

Messages overview2 Unread

Messages overview

Inbox

Last 50 messages

!	Date	From	Subject	Category	
!	12.12.2013 14:41	Online banking helpdesk Daisy Miller	Enquiry about trading hours	Question on E-Banking	
!	11.12.2013 09:46	Bank advisor David Lasky	New interest rates for 2013	Sundries	
!	10.12.2013 10:17	Bank advisor David Lasky	Portfolio re-allocation: action required ...	Client advisor communication	
!	09.12.2013 16:40	Online banking helpdesk Daisy Miller	Happy Birthday!	Client advisor communication	

Transfer attachments to SecureSafe

Download attachments

Delete messages

Move messages

New message

Disclaimer

Messages will be saved within E-Banking for a maximum of 90 days.

Figure 3: Messages Overview




Breadcrumb

Commented [TBV1]: 1.PRODUCT-2037 and PRODUCT-4689
There are open bugs on this issue

Commented [HB2R1]: Removed popup for important messages after login.

Row	Values
Line 1	Messages overview
Line 2	[quantity of unread messages]

Table columns

Column	Grouping (Aggregation)	Default sorting	Visible by default	Show/hide allowed	Wrapping	Resizing
Read/Unread 	No		Yes	No	No	Fix
Importance 	No		Yes	No	No	Fix
Date	No	1: desc	Yes	No	No	Fix
From	Yes		yes (all Folder except Outbox) no (Outbox)	Yes	Yes	Min
To	Yes		No (all Folder except Outbox) yes (Outbox)	Yes	Yes	Min
Subject	Yes		Yes	No	Yes	Min
Category	Yes		No	Yes	Yes	Min
Optional: Only if Bank uses Categories						
Date Read	No		Yes	Yes	No	Fix
Attachement 	No		Yes	No	No	Fix

Actions

Click on	Effect
[table row]	Drilldown to Message Detail, see chapter 2.1.3.5.
Transfer attachments to Secure Safe	Transfers the attachments to the Secure Safe, see chapter 2.1.3.9 – only available with an active Secure Safe
Download attachments	Downloads attachments, see chapter 2.1.3.10
Delete messages	Deletes messages, see chapter 2.1.3.11
Move messages	Moves messages, see chapter 2.1.3.12
New message	Opens new message, see chapter 2.1.3.13

Paging

In case of too many entries, paging will be available on this screen. Paging is configured in the general preferences.

2.1.3.1. Select box “Folders”

The user can switch the view between different folders, Inbox, Sent, Archive, Deleted and folders created by the user. The number of unread messages is indicated in the “Inbox” folder.

Note: The number of unread messages in the inbox is shown in the notification total (see Notifications product documentation). Unread messages in other folders will not be counted for the notifications.

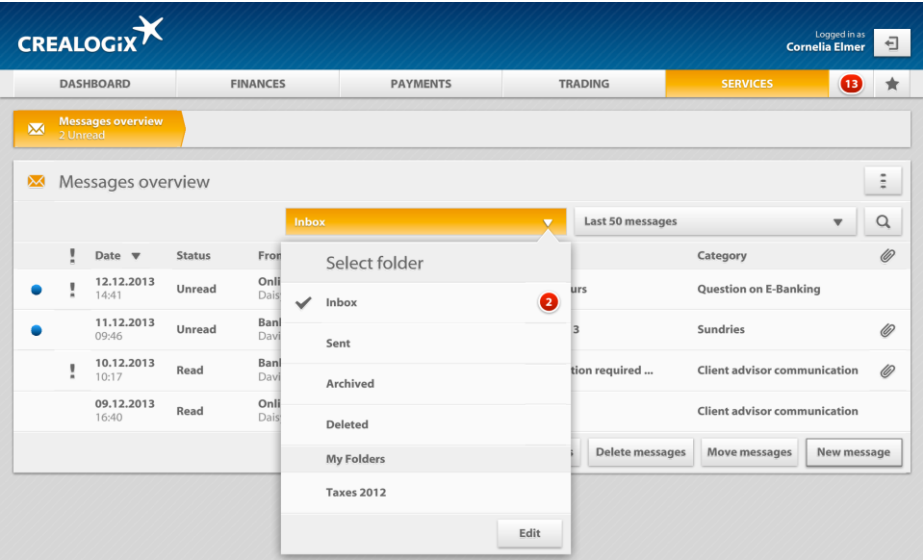


Figure 4: Select box - Folders

Select folder

Name	How to create	Deletable	Description	Default
Inbox	Predefined	No	Received messages. X is the number of unread messages in the folder	Yes
Sent	Predefined	No	Sent messages	No
Archived	Predefined	No	Archived messages	No
Deleted	Predefined	No	Deleted messages	No

Actions

Click on	Effect
Edit	Entries under “My Folder” will be manageable: rename, delete and create

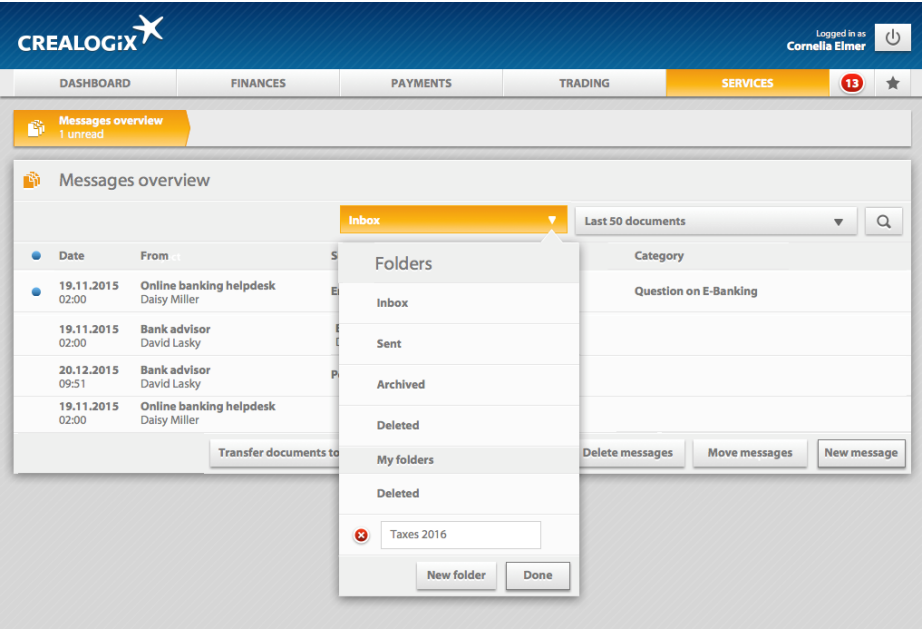


Figure 5: Select box - Folders in edit mode

Actions

Click on	Effect
New folder	Creates a new entry to add the name of a new folder
Delete symbol	Deletes the folder if it is empty. Otherwise a popup appears saying, that only empty folders can be deleted.
Done	Renames the folder, if name has changed and return to regular select box.

2.1.3.2. Context functions

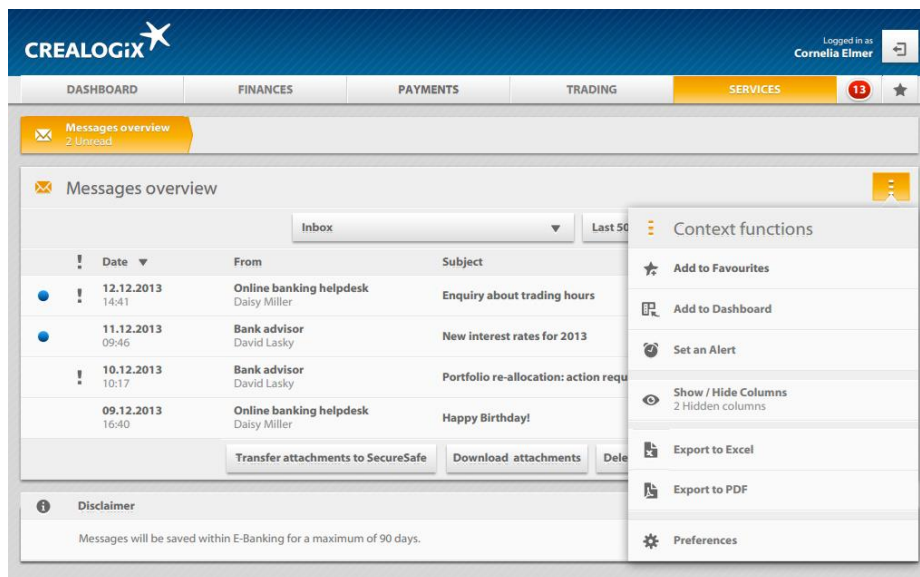


Figure 6: Pull down - Context functions (Context Menu)

Function	Action	Visible if
Add to Favourites	Adds "Messages" to the favourites list	
Add to Dashboard	Adds the "Message overview" widget to the dashboard	
Set an Alert	Switches to Alerts overview/New alert screen	
Show/Hide Columns	Enables adding/removing visible columns	
Export to Excel	Exports the messages overview to a CSV formatted text file that can be open in Excel	
Export to PDF	Exports the message overview to a PDF file	
Preferences	Link to the message preferences (goes to Settings -> Messages)	Bank doesn't use Alerting module

2.1.3.3. Messages filtering

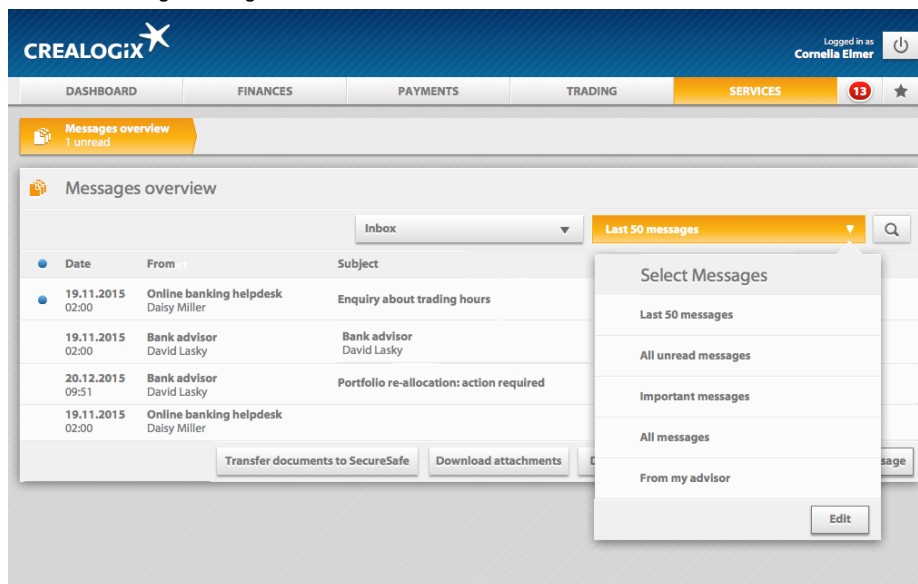


Figure 7: Messages filtering

Message filtering

Name	How to create	Deletable	Description	Visible by default	Default
Last [x] messages	Predefined	No	X is the number of messages retrieved from the server not exceeding n (max number of rows retrieved)	Yes	No
All unread messages	Predefined	No	All unread entries	yes (all Folders except Sent)	No
Important messages	Predefined	No	All messages having flag Urgent	Yes	No
All messages	Predefined	No	All messages	Yes	Yes
From my advisor	Predefined	No	All messages sent by advisor	Yes	No

Actions

Click on	Effect
Edit	Activates Filter edit mode

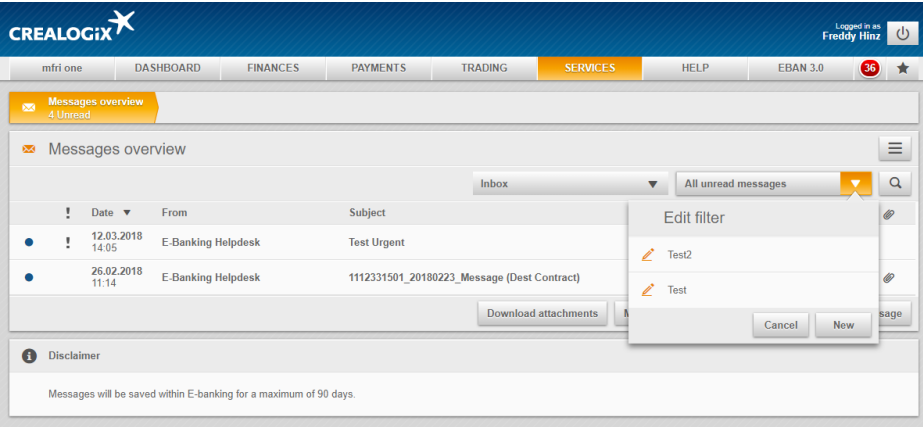


Figure 8: Filter edit mode

Edit mode enables user to edit or delete existing filters created by user and to create new ones.

Actions

Click on	Effect
Edit symbol	Opens Edit filter pop-up
Cancel	Exit Edit mode
New	Opens New filter pop-up

Edit filter pop-up enables editing or deleting of existing filter.

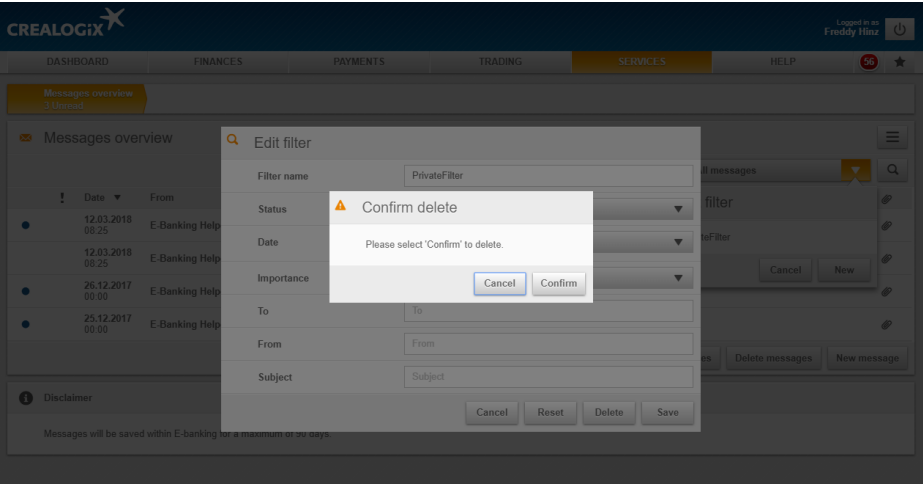


Figure 9: Delete filter - confirmation message

Actions

Click on	Effect
Cancel	Exits Edit filter pop-up
Reset	Clears all values
Delete	Opens Confirm delete pop-up. Cancel/confirm buttons to execute action
Save	Saves changes

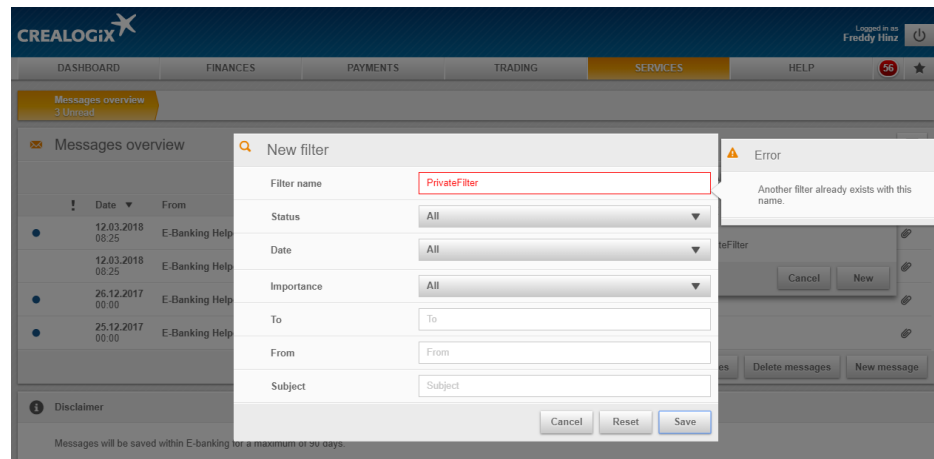



Figure 10: New filter

Actions

Click on	Effect
Cancel	Cancels input and returns to previous page
Reset	Clears all values
Save	Save this search under the name specified in “Filter name”. An error message is displayed, if the input field is empty

If a custom search name already exists, the user gets a popup asking to confirm overwrite.

2.1.3.4. Search

Click on Button  will open following Search Screen:

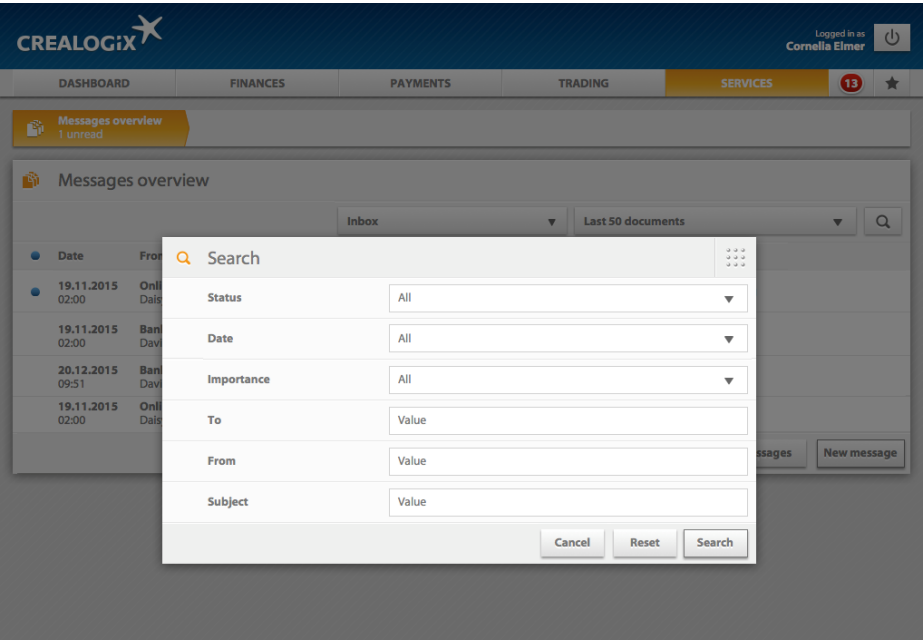


Figure 11: Search

Search form fields

Attribute	Type	Description
Status	Select box	Values: All Unread only Already read
Date	Select box	Values: All Last 3 months Current month Last month Current year Custom date range
(only displayed, if Date range set to Custom date range)	Date	Date from, Date to (the message was created)
Importance	Select box	Values: All Normal High
To	Text	Name of receiver (substring)
From	Text	Name of sender (substring)
Subject	Text	Subject (substring)

If Date Range is set to Custom date range, additional Date picker fields are added in the search form to specify From and To Date.

Actions

Click on	Effect
Cancel	Cancel and go back to Messages overview screen
Reset	Reset all entries in search fields
Search	Search messages with the criteria entered in search fields

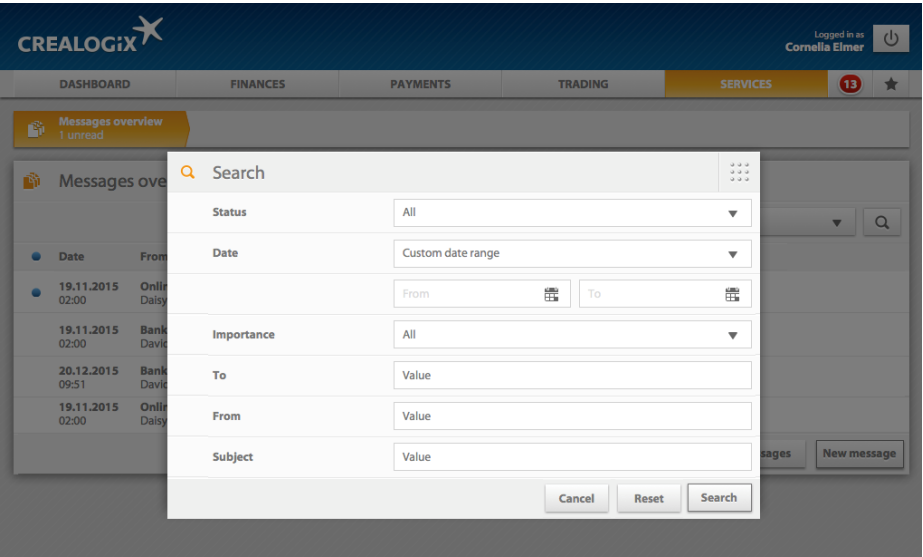


Figure 12: Search with absolute date range search

2.1.3.5. Message detail

Details of a message will be visible by clicking a row in Messages Overview screen (Drilldown).

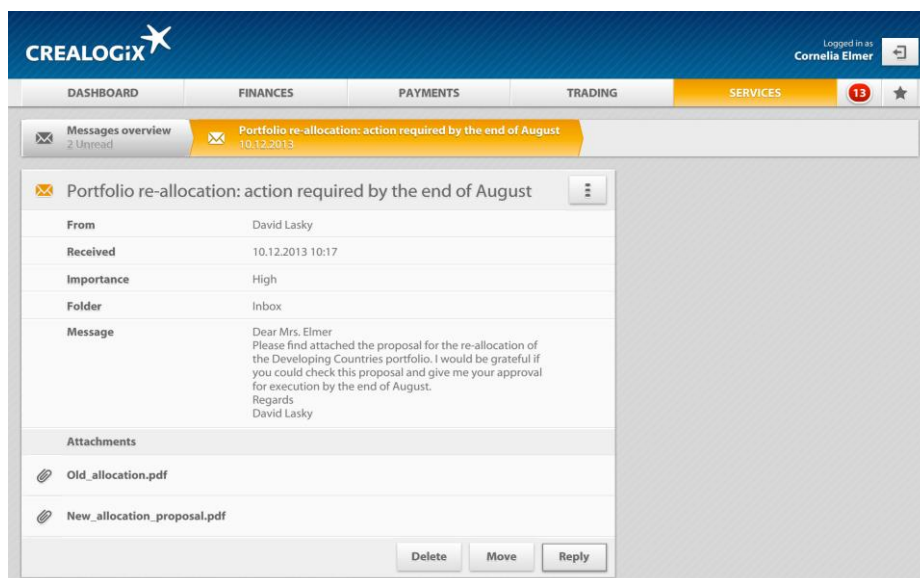


Figure 13: Message

Actions

Click on	Effect
Delete	Delete the message displayed and returns to Messages Overview screen
Move	Move the message to a different folder
Reply	Reply to the message displayed, see chapter 2.1.3.7
Attachment file name	Downloads respective file

Context functions

Function	Action	Visible if
Export to PDF	Exports the message detail to a PDF file	

2.1.3.6. Single message delete

Upon click on 'Delete' button on message detail screen confirmation message is shown.

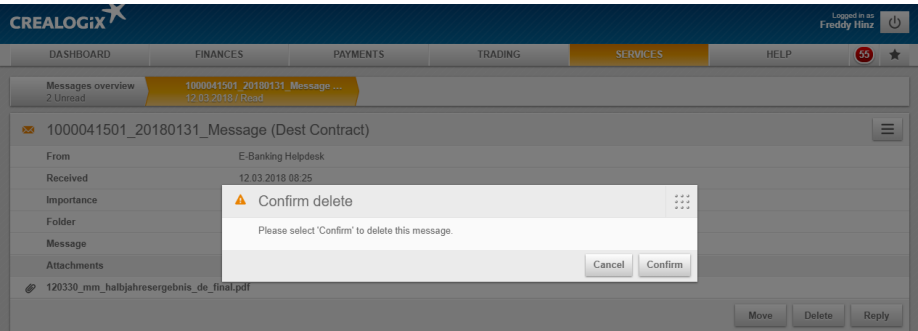


Figure 14: Delete Message confirmation

Actions

Click on	Effect
Cancel	Cancel returns back to Message detail 2.1.3.5
Confirm	Deletes the message, which means moves the message to the Deleted folder and returns to the Message overview screen 2.1.3

2.1.3.7. Single message move

Upon click on 'Move' button on message detail screen pop-up is shown to define new destination folder for the message.

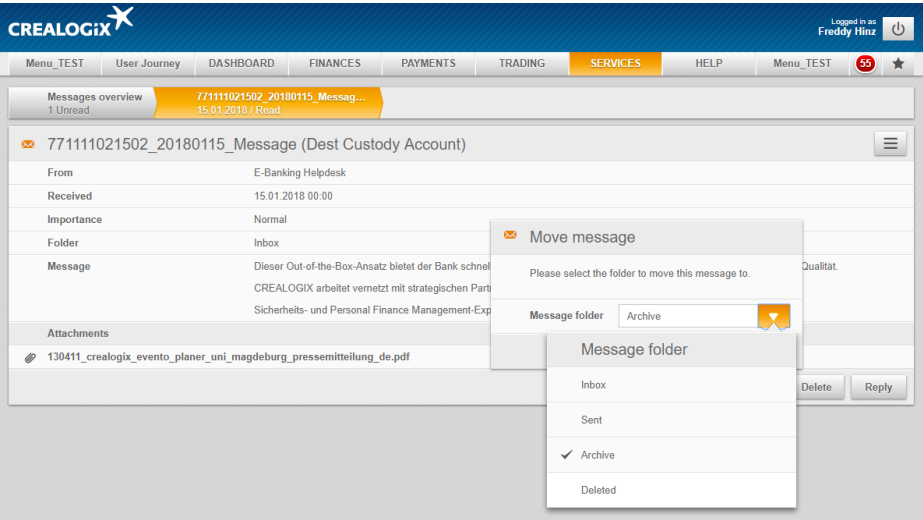


Figure 15: Move Message

Move message

Attribute	Type	Description	Default
-----------	------	-------------	---------

Commented [CP3]: Update screen: Pop-up for moving a message not a modal dialog
Please check new screen

Commented [ID4R3]: MDB 18.3 - move document is still pop-up



Message folder	Select box	Values: Inbox Sent Archive Deleted Custom Folders	Archive
----------------	------------	--	---------

Actions

Click on	Effect
Cancel	Cancel returns back to Message detail 2.1.3.5
Move	Moves the message to the Message folder entered (Message Detail stays open)

2.1.3.8. Single message reply

Reply to the message. Originator address is taken from the received mail as return address. The user can write the text mail, mark it optionally as high priority and add optionally attachments. Attachments may impose a security risk for the bank. That's why the bank can decide, if they want to support attachments. The Web Application Firewall Airlock optionally supports a plugin to check uploaded files for viruses.

Figure 16: Message reply

Actions

Click on	Effect
Cancel	Cancel returns back to Message detail 2.1.3.5
Send	Sends the reply message and returns to the Messages overview screen 2.1.3

Commented [ID5]:
MDB TEST 18.3 Reply to message (old message inline)

2.1.3.9. Transfer attachments to Secure Safe

The Digital Banking user is able to transfer attachments of messages selectively to the Secure Safe from the messages overview.

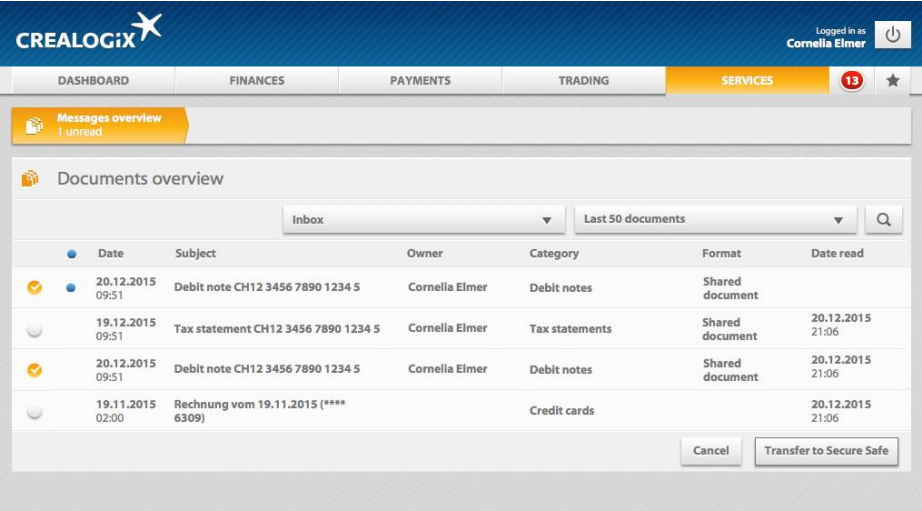


Figure 17: Messages overview to select attachments to transfer to the Secure Safe

Please note, only messages with attachments are displayed.

Actions

Click on	Effect
Transfer to Secure Safe	The user gets a confirmation popup.

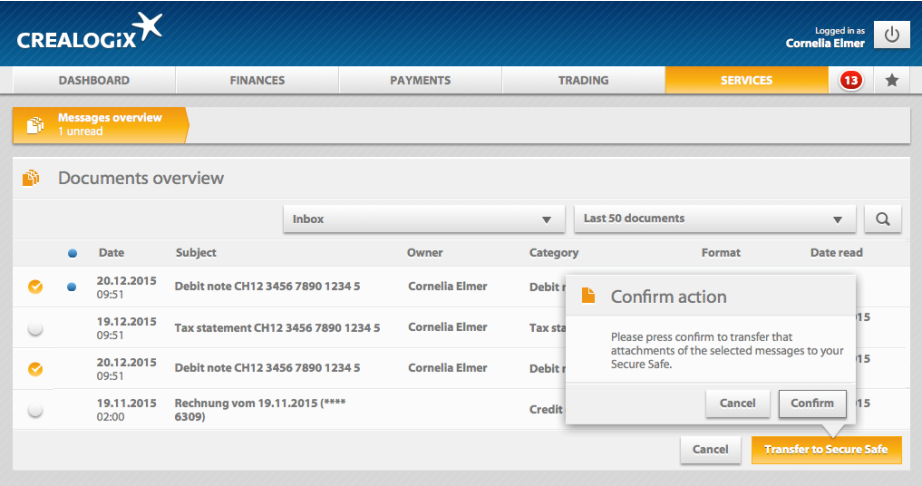


Figure 18: Messages overview with confirmation popup to transfer attachments to Secure Safe

Actions

Click on	Effect
Cancel	The popup is closed
Confirm	The attachments are transferred to the Secure Safe.

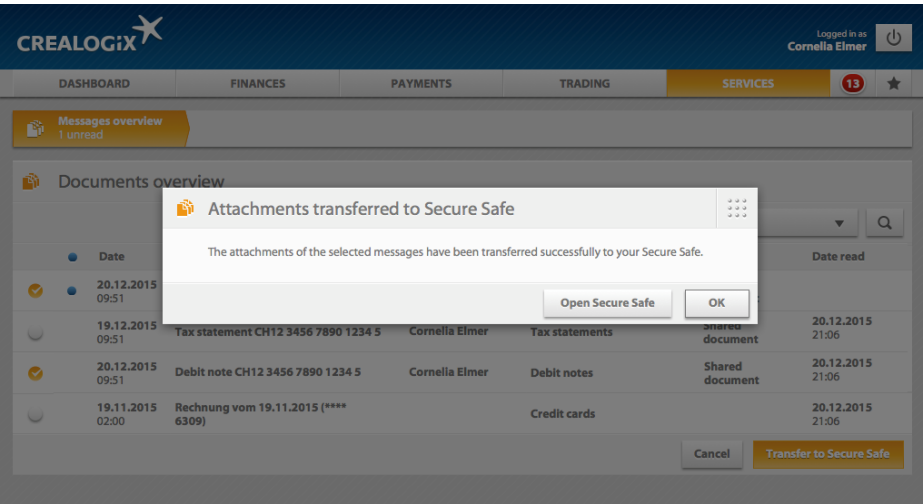


Figure 19: Messages overview - Secure Safe transfer confirmation

Actions

Click on	Effect
Open Secure Safe	A browser tab/window is opened to login to the Secure Safe. (See Product documentation Secure Safe)
OK	The popup is closed and the user is back on the Messages overview.

2.1.3.10. Download multiple attachments

On the Messages overview screen, the action “Download attachments” can be chosen. All messages with attachments will have a checkbox in front to select which attachments to download. Note: A Download of attachments will not affect the read status of the messages.

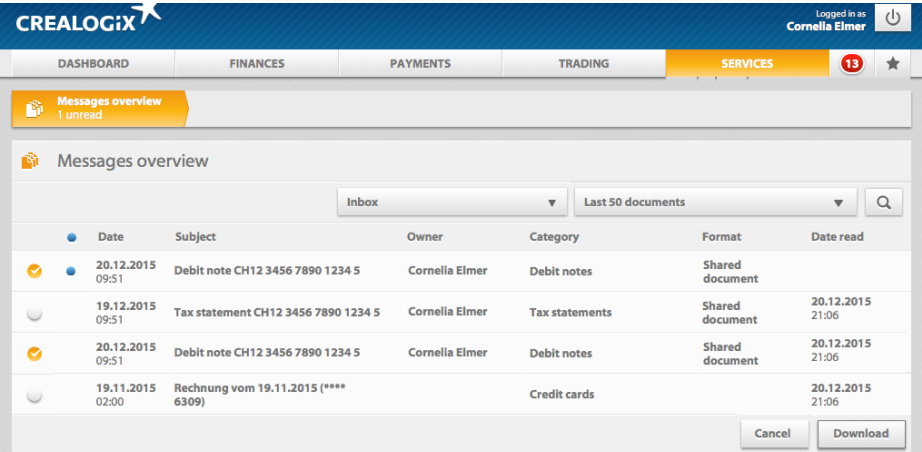


Figure 20: Messages overview: Download attachments

Actions

Click on	Effect
Cancel	Cancel returns back to Messages Overview, see chapter 2.1.3
Checkboxes	The user can check which messages to download attachments from
Download	Downloads the selected attachments. If there is only one attachment file is PDF if there is more the file is zip. The screen stays unchanged

2.1.3.11. Delete multiple messages

Displays the Messages overview screen with checkboxes in front of each row to select which messages to delete.

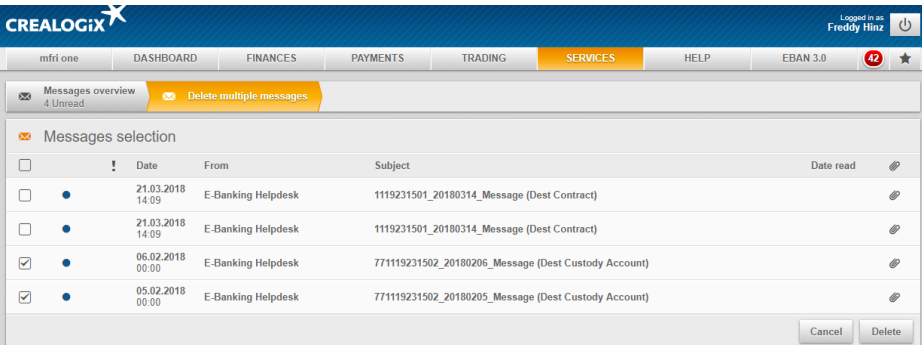


Figure 21: Delete multiple messages

Actions

Click on	Effect
Cancel	Cancel returns back to Messages Overview, see chapter 2.1.3
Checkboxes	The user can check which messages to delete
Delete	The user is asked to confirm deleting the messages. If confirmed, the messages are moved to the deleted folder and the screen is updated, based on the current search criteria

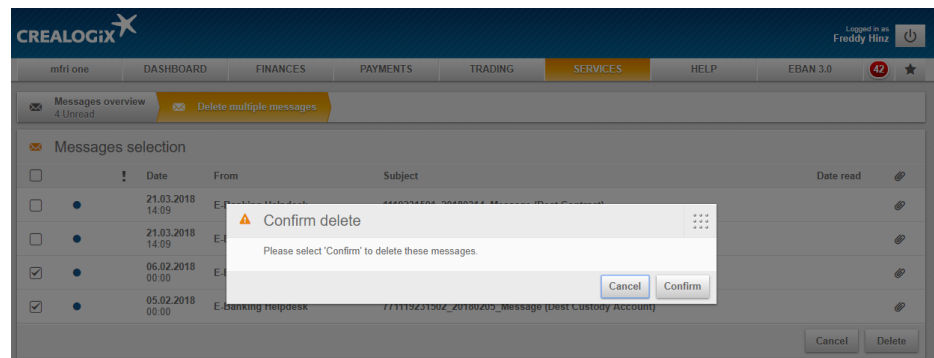


Figure 22: Delete multiple messages confirmation

Actions

Click on	Effect
Cancel	Cancel returns back to Messages Overview, see chapter 2.1.3
Confirm	Confirms deletion of selected messages

2.1.3.12. Move multiple messages

Displays the Messages overview screen and checkboxes in front of each rows to select which messages to move into a different folder.

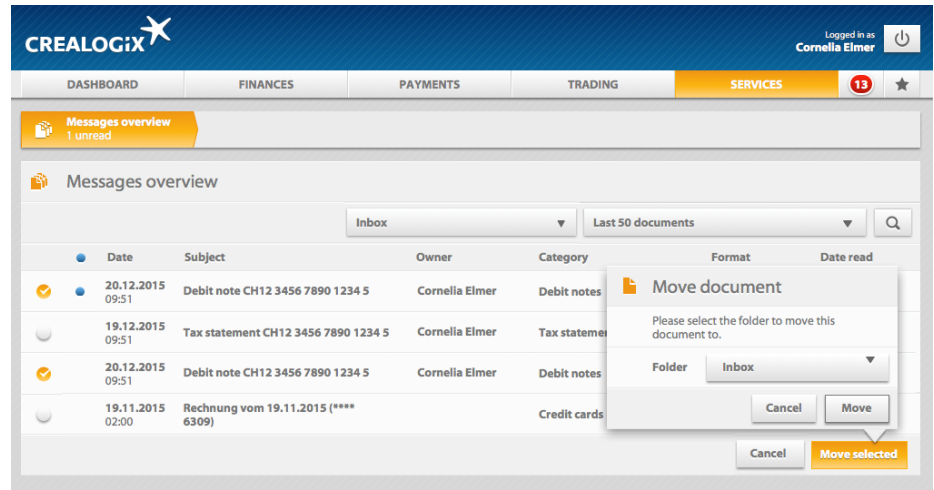
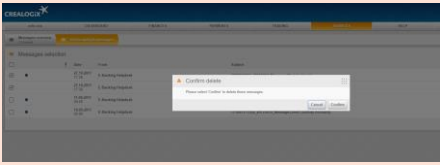


Figure 23: Move multiple messages

Commented [ID6]:
MDB 18.3 TEST



Actions

Click on	Effect
Cancel	Cancel returns back to Messages Overview, see chapter 2.1.3
Checkboxes	The user can check which messages to delete
Move	The user is asked in a popup to choose the folder the messages should be moved to. If confirmed with button Move, the messages are moved and the screen is updated based on the current search criteria

2.1.3.13. New message

An empty screen form is displayed for the user to create a new message to the bank.

Figure 24: New message

Attribute	Type	Description
To	Select box	The user can select the recipients. Depending on the bank configuration, the user can choose between advisors. If there is only 1 recipient, no select box will be displayed, only the recipient as read only field.
Subject	String	The user can enter a subject. Optionally the bank can define in the bank configuration a selection of subjects to choose from
Text of message	String	The user can write the text message. The bank can define in the bank configuration the maximum size of the text message
Charaters remaining [Count down]	Information	The maximum is 4000 characters. The counter counts down.
Importance	Checkbox	The user can check the message as high priority
Attachments		The user can select files to attach to the message. If one file is selected, another field appears to select more files to add as attachment.
Maximum attachment size	Information	By default the size of all attachments can be up to 10 MB. This can be configured by bank

Commented [ID7]:
MDB 183 TEST

Commented [HB8R7]:

Actions

Click on	Effect
Cancel	Cancel returns back to messages overview, see chapter 2.1.3
Send	The message is sent and a popup is displayed informing the user that the message has been sent successfully

Context functions

Function	Action	Visible if
Add to Favourites	Adds "New Messages" to the favourites list	
Add to Dashboard	Adds a "Quick message" widget to the dashboard	Module "Dashboard" licenced by the Bank

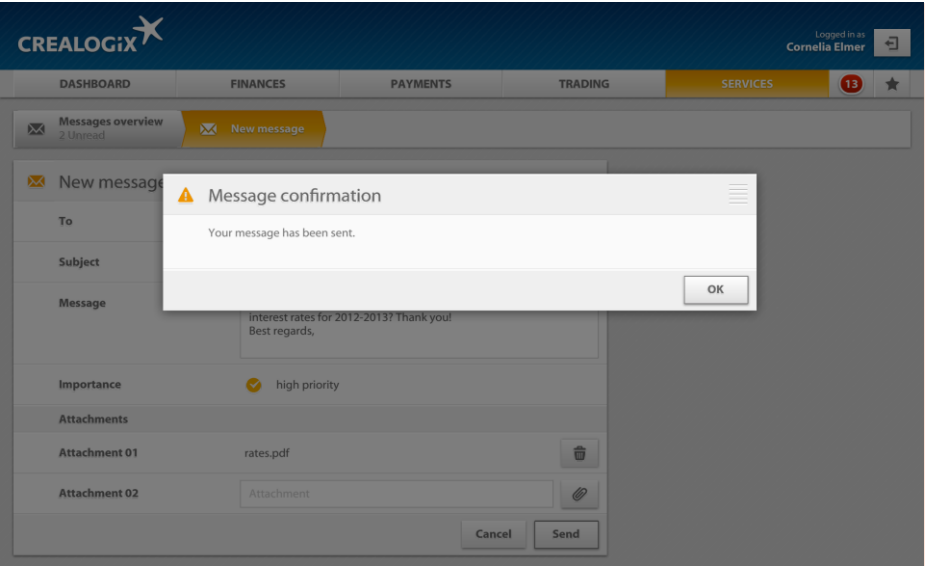
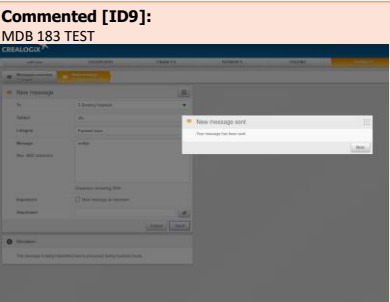


Figure 25: New message confirmation

Actions

Click on	Effect
Ok	The Messages overview screen appears again, see chapter 2.1.3



3. Implementation in other CLX Digital Banking Front-end clients

3.1. Mobile Banking

The current mobile banking client is already based on the new design and technology and will not be changed in functionality. The look and feel however will be adapted to CLX Digital Banking 2.0.

3.1.1. Navigation menu

Inside the Navigation menu there is a Services feature, from which the user can select a Messages field to exchange messages with the bank.

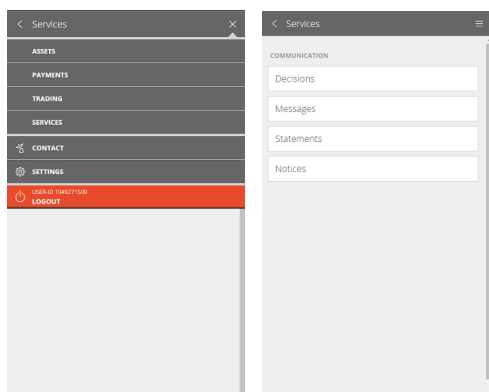


Figure 26: Navigation and Services menu

Menu items

- **Messages:** The user gets an overview of the messages received and sent.

3.1.2. Messages

Inside the "Messages" screen the user has an overview of the "Received" or "Sent" messages, and can create a new message.

3.1.2.1. Message overview

Unread Messages are indicated with an orange line which is located on the left side of the message field. Messages flagged as urgent are additionally marked with an icon (orange triangle with exclamation marker inside).

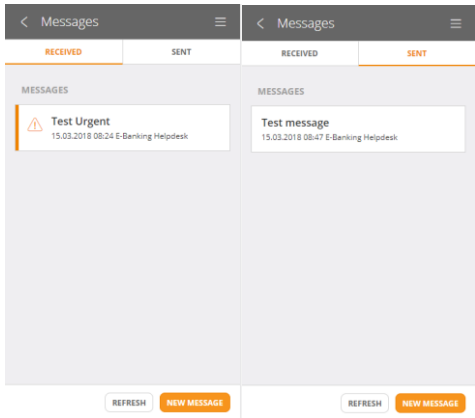


Figure 27: Messages overview (RECEIVED and SENT)

Messages content field

Position	Value
1st line left	Subject/Title of the statement
2nd line left	Date, time, sender

Actions

Click on	Effect
Back arrow	Goes to the previous screen
Received tab	Overview of all the received messages (by default)
Sent tab	Overview of all the sent messages
Refresh	Refresh the overview screen for new data
New message	Goes to new screen to create new message

3.1.2.2. Create message

The user can create a new message and send it to the bank (to his/her advisor) with the chosen topic, importance, attachment and more details. If the user doesn't fill up mandatory fields a message will show up and the fields will be marked.

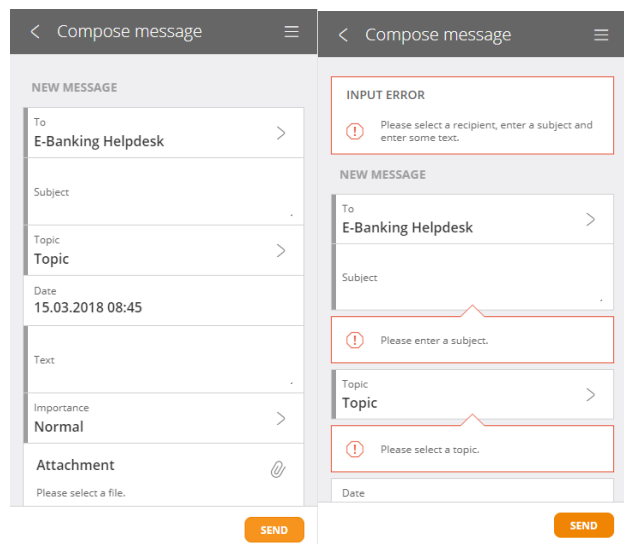


Figure 28: Compose message and input error screen

New message content field

Attribute	Type	Description
To	Select box	The user can select the recipients. Depending on the bank configuration, the user can choose between advisors. If there is only 1 recipient, no select box will be displayed, only the recipient as read only field.
Subject	String	The user can enter a subject. Optionally the bank can define in the bank" configuration a selection of subjects to choose from
Topic	Select box	The list of topic's will show in the new screen. Possible value: Address change, Standing order, Payment trace, Order pay-in slip, Stock transactions, Maestro Card/credit card, Statements of account, Client adviser communication, Electronic documents, Closure of accounts, E-Banking change, Question on E-Banking/extent of service, Sundries/general information
Date	Read only	The field will show current date and time
Text	String	The user can write the text message. The bank can define in the bank configuration the maximum size of the text message
Importance	Checkbox	The user can check the message as: Normal (by default) or High
Attachments	Select icon	The user needs to click on the icon in the right corner to select a files to attach to the message. If one file is selected, another field appears to select more files to add as attachment. If the user wants to delete attached file it is necessary to press the icon in the right corner.

Actions

Click on	Effect
Back arrow	Goes to the previous screen
Send	The message will be send to the bank

3.1.2.3. Message details

The user can see the details of a message by selecting one of the messages in the Messages Overview screen. Inside the Message details screen, the user can see the details, open the attached document, delete message or

reply to the bank. If there is an attached document a message will be presented on the screen.

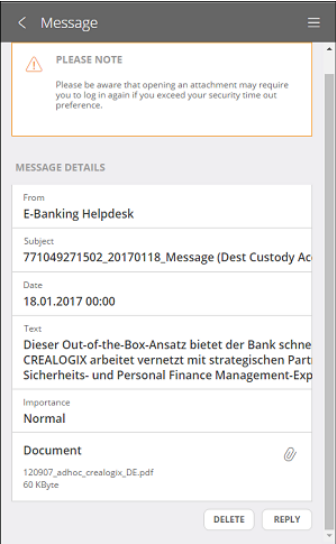


Figure 29: Message details

Actions

Click on	Effect
Back arrow	Goes to the previous screen
Document field	It is possible to open attached document (visible if there is document)
Delete	Delete the message and goes to the overview page
Replay	Goes to the New message page

3.1.3. Statements

Shows a list with the Statements received from the bank lately. Unread statements are indicated with an orange line, which is located on the left side of the statement field.

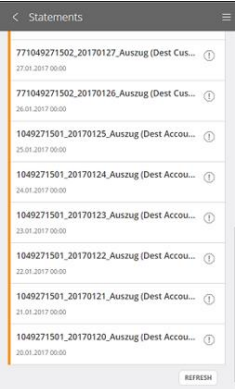


Figure 30: Statements overview

The user can see the details of a Statement by selecting one of the Statements inside the overview screen. Inside the Statements details screen, the user can see the details and open the attached document. If there is an attached document, a message will be presented on the screen.

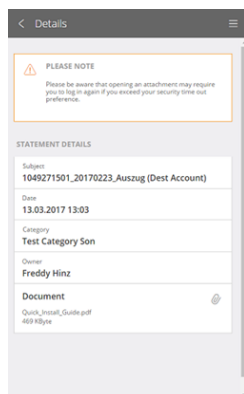


Figure 31: Document details

3.1.4. Notices

Presents bank information for the clients. Notices is created in Admin client [Administration → broadcast messages] and broadcast to custores.,

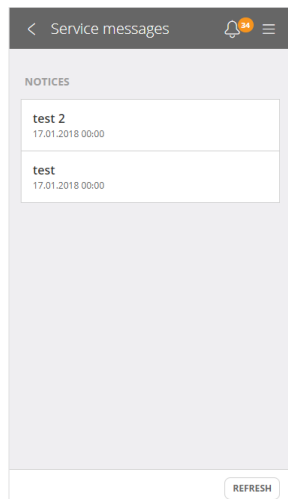


Figure 32: Notices (Servis messages)

3.2. Admin Client

There is no impact on the Admin Client.

3.3. Login App

There is no impact on the login application.

4. Personalized Messaging Exchange Linkup

4.1. Introduction

The Personalised Messaging enables the integration of the “Secure Messaging” module with the E-Mail System of the bank. This allows, that the client advisors of the bank can communicate with the bank clients directly using Outlook, because messages are forwarded from E-Banking to the E-Mail Inbox of the client advisor. For the bank client, the same user interface as with the module “Secure Messaging” is provided. A detailed description of the E-Banking screens of Secure Messaging can be found in chapter [2].

Notation:

The present document uses the following variables. These are displayed in {}-brackets.

- {MAILDOMAIN}:
- {EBANKDOMAIN}
- {BC-No}: The BC-number of the bank mandate.
- {Contract}: This variable is replaced by a contract number.
- {CUCO}: The Email-Address of the customer consultant, respectively the part before “@bankxy.ch”.

Interface overview:

The following interfaces are necessary for the “Personalized Messaging – Exchange Link-up”:

- Interfaces to an outgoing and ingoing mail system.
- Query of consultant data (email address) using the online interface from the bank system.
- Address book export. The import in an address book server like Exchange (or LDAP) is carried out by the bank.

Performance and mail format:

“Personalized messaging – exchange link-up” can handle up to the following data stream:

- 100'000 clients
- 100'000 contracts
- 250'000 accounts
- 2'000 messages per day (except broadcast)

Mails are limited to pure text (no HTML or rich text mails)

4.2. Message exchange

4.2.1. Messages from Customer Client to the Bank

4.2.1.1. Customer Client / Send Messages

If a client responds to a mail of a customer consultant the message is addressed directly to the customer client {CUCO}@{MAILDOMAIN}.

If the client writes a new message in the mask “Record message” there will be a new write-protected field “To” in which the name of the customer client will be filled in. This name is filled in by the consultant interface. If no consultant is predefined then nothing's written in the field.

As sender of the message the sender address contract-{contract}-{BC-No}@{EBANKDOMAIN} is always used.

The message thus looks as follows – the button “Respond” produces a response mail as described above:

FROM: contract-{Contract}-{BC-No}@{EBANKDOMAIN} or
 {Customerfirstname.{Customerlastname}.{Contract}-{BC-No}@{EBANKDOMAIN}}
 TO: {CUCO}@{MAILDOMAIN}

or

FROM: contract-{Contract}-{BC-No}@{EBANKDOMAIN} or
 {Customerfirstname.{Customerlastname}.{Contract}-{BC-No}@{EBANKDOMAIN}}
 TO: error-{BC-No}@{EBANKDOMAIN} if no customer consultant is available.

4.2.1.2. Mail Delivery by the E-Banking (Mail Synchronizer Batch)

The E-Banking application checks in regular intervals (configurable), if new messages are available in the E-Banking. Such messages are sent by the standard SMTP interface to the address of the customer consultant.

For a better overview there's an optional setting that the CLX.E-Banking expands the mail subjects by "Client: {Client name & number}, contract: {Contract}", which can be switched on/off client specifically.

The preparation and configuration of an email server and especially also a virus protection are part of the bank's responsibility. The configuration needs to fulfil the regular security measures. For example it shouldn't be possible to deliver mails from outside the bank into the E-Banking.

4.2.1.3. Microsoft® Outlook mail client

To read the mails no special measures are required.

4.2.2. Messages from the Bank to the Customer Client

4.2.2.1. Microsoft® Outlook mail client

If the customer consultant responds to a message of the E-Banking client his recipient address is added to the message as sender address (standard procedure).

But for the customer consultant to initiate the mail correspondence an address book containing all clients, products and contract data from the E-Banking needs to be supplied.

Messages can be sent to contracts. This is done by entering an E-Mail address in the following form: contract-{contract}-{BC-No}@{EBANKDOMAIN}.

As normal multiple recipients can be specified. If the customer consultant uses text formatting (character sets, colours, bold, cursive, ...) these are lost. Messages with more than 4000 characters won't be accepted either.

4.2.2.2. Address Book Export and Address Book Server

To protect the bank associate from making typing errors in the email address an address book needs to be supplied. The E-Banking application delivers a .csv address book export which needs to be imported on a dedicated server by the bank which is available as address book for the bank associates.

The exported fields are chosen such that the customer consultant has enough information of the client to definitely identify customer, contract and product. This is why a contract email address can show up multiple times (for every product of the contract). The exported data support searches for the following:

- Search for name
- Search for contract number
- Search for product

Contract holder {firstname}	Contract holder {lastname}	Contract holder {customer number}	{contract}	Email address	Last login to the contract	Product owner {firstname}	Product owner {lastname}	Product holder {customer number}	{product}
Stefan	Meier	1234	9876	contract-9876- {BC-No}@{EBANKDOMAIN}	2008012 0134520	Stefan	Meier	1234	6666
Stefan	Meier	1235	8765	contract-8765- {BC-No}@{EBANKDOMAIN}	2008011 5104501	Stefan	Meier	1235	7777
Pete	Keller	3214	7777	contract-7777- {BC-No}@{EBANKDOMAIN}	2007122 9081725	Peter	Keller	3214	8541
Peter	Keller	3214	7777	contract-7777- {BC-No}@{EBANKDOMAIN}	2007122 9081725	Peter	Keller	3214	8566
Anna	Keller	3215	7778	contract-7778- {BC-No}@{EBANKDOMAIN}	2008012 1195523	Peter	Keller	3214	8541
Anna	Keller	3215	7778	contract-7778- {BC-No}@{EBANKDOMAIN}	2008012 1195523	Anna	Keller	3215	8542

Notice that “Stefan Meier” isn’t twice the same person but different people who can be differentiated by the customer number. On the other hand “Peter Keller” is twice the same person.

Mister “Peter Keller” has the contract 7777 and the two products 8541 and 8566. Mrs Anna Keller has the contract 7778 and the account 8541 from her husband (contract holder not being the same as product holder!) as well as her own account 8542.

4.2.2.3. Receiving Mails by the E-Banking (MailSynchronizer batch)

For the contract based email addresses no physical post boxes exist on the email server. All sent messages are forwarded to the static email address toCustomer.{BC-No}@{EBANKDOMAIN} (configuration for the forwarding falls to the bank).

The E-Banking application gets in regular intervals (configurable) all messages from the post box of toCustomer.{BC-No}@{EBANKDOMAIN}. If in one of the message a contract number in the recipient address doesn’t exist the mail is returned to the customer consultant with the notice that the address has an error (correct addresses are delivered).

If more than one recipient addresses are contained the message is duplicated correctly.

The preparation and configuration of an email server and especially also a virus protection are part of the bank’s responsibility. The configuration needs to full fill the regular security measures. For example it shouldn’t be

possible to deliver mails from outside the bank into the E-Banking. No tests will be done by the E-Banking.

4.2.2.4. Customer Client – Message Overview

The Messages are delivered to the mail inbox of the client. The graphical user interface of the Customer Client is described in detail within chapter [2].

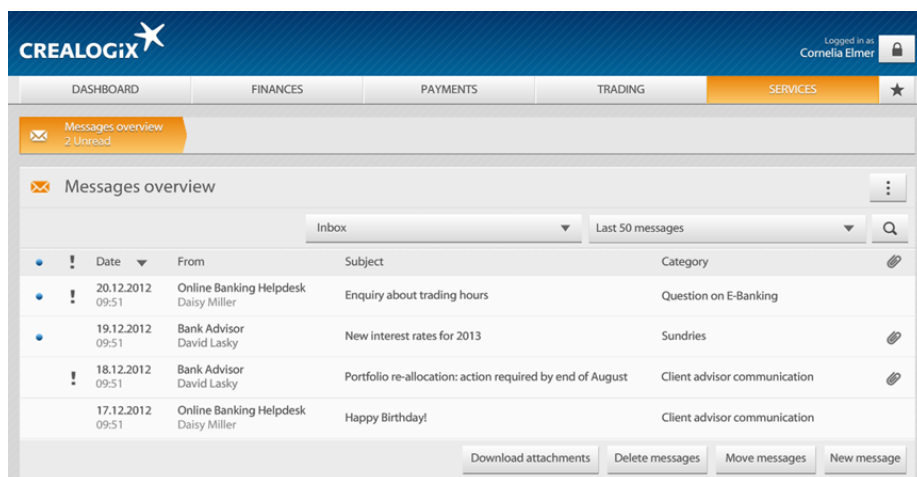


Figure 33: Message overview

4.2.2.5. Customer Client – Notifications

The user can define notifications of new messages as a new “rule, if the module “Alerting” is licensed by the bank. A rule can be set, that whenever a message arrives an email is sent to the specified email address or a SMS is sent. A new address respectively mobile phone number can be chosen or an already registered one. The validity can be limited to a certain date already in advance, but rules can also be deactivated at any time or deleted.

4.2.2.6. Admin Client

The mail correspondence history between client and customer consultant can be viewed in the Admin Client (sent messages and received messages). A search mask helps to find the specific message and clicking on the subject will as usual lead into a full view of the message with options as “respond”, “forward”, “archive”, “delete” (completely), “completed”, “removed” (moved to waste basket). The filter has the options “folder”, “contract no.”, “client no.”, “subject”, “type” and date.

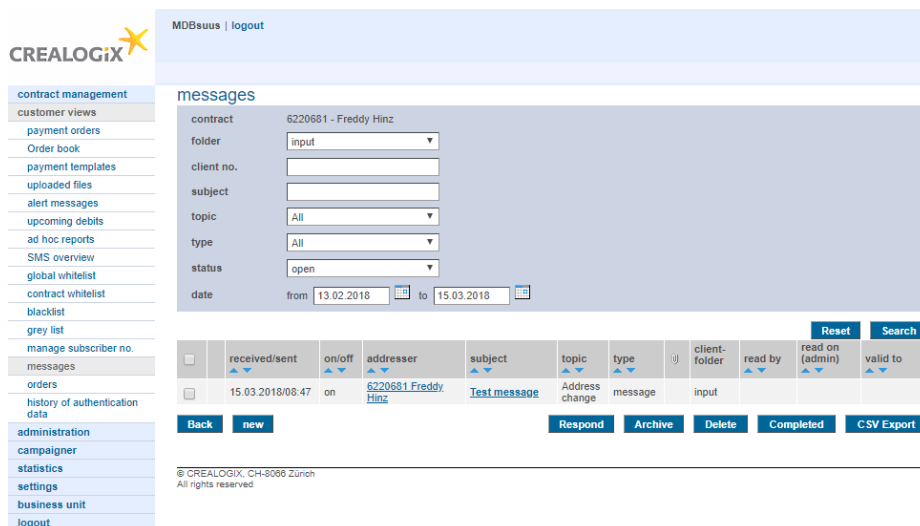


Figure 34: Admin Client message overview

4.3. Technical overview

4.3.1. Data stream

The data streams are apparent from the following diagram:

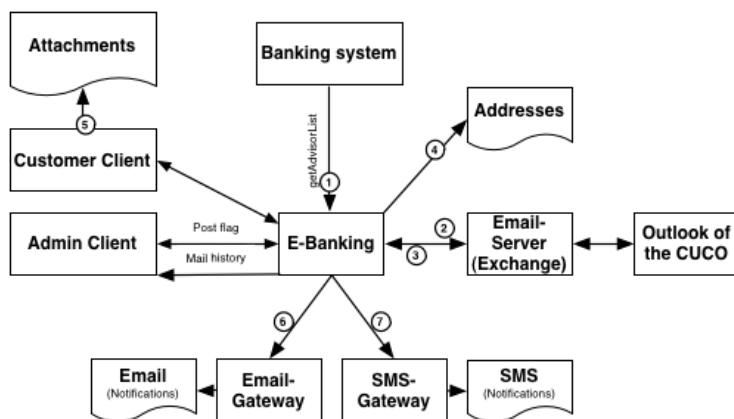


Figure 35: Data streams

Description:

- (1) Consultant: CLX.E-Banking queries from the bank system the consultant data using the client data. The bank system informs changes of the consultant data directly to CLX.E-Banking.
- (2) Outgoing email-server (SMTP interface): The client can use the safe channel of the CLX.E-Banking to send

messages to the customer consultant. The CLX.E-Banking sends this due to (1) to the right customer consultant, see “outgoing email transmission” in [1].

(3) Ingoing email-server (POP3 interface): The consultant can response or from his initiative send a mail to a contract on the E-Banking, see specifications “ingoing email reception” in [1].

(4) Address book export: The E-Banking provides an address book in form of a .csv file, see interface “address book” in [1]. It is incumbent on the bank to import that to a server where the addresses are available to the customer clients as an address book in Outlook.

(5) Downloads in E-Banking. The client can read the received messages and download attachments. He can pick the attachments of multiple messages which are available in the form of a combined zip file.

(6) Email – Alerting: The client can set up email alerts. These are sent from the E-Banking using the standard SMTP interface from Java, see “SMTP based email sending of messages” in [1].

(7) SMS Alerting: Alternatively the client can set up SMS alerts. SMS messages are sent using the SMS gateway, see “HTTP based SMS sending of messages” in [1].

4.3.2. Architecture

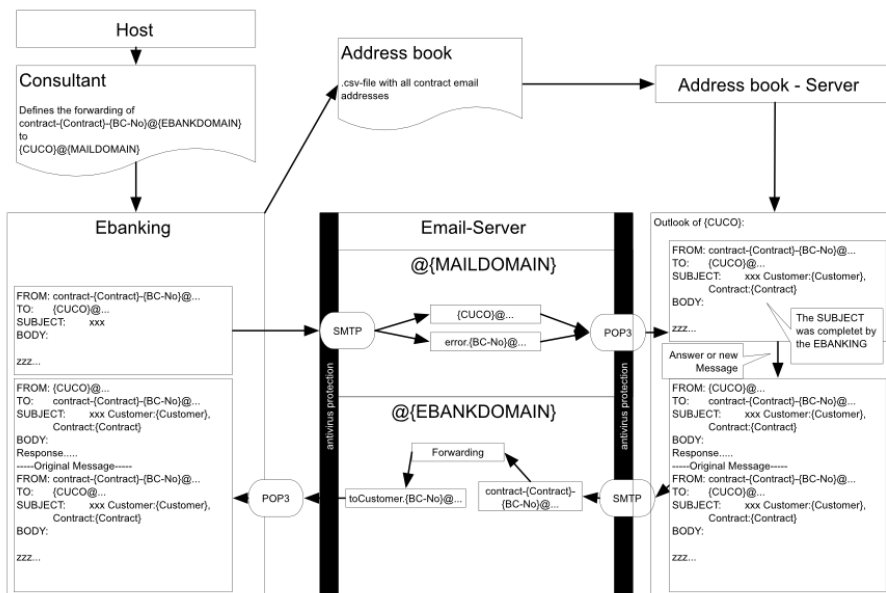


Figure 36: Architecture overview “Personalized Messaging – Exchange link-up

The two message streams

- Messages from Client to the bank and
- Messages from the bank to the Client

are differentiated. We propose to use two separate mail domains or sub domains.

- {MAILDOMAIN}: Messages from the Customer Client to the bank. That is the existing mail domain of the bank. Using this mail domain it’s also possible to mail to the customer consultants from outside the bank.
- {EBANKDOMAIN}: Messages from the bank to the Customer Client are handled by {EBANKDOMAIN}. This mail

domain may not be accessible from outside the bank.

This separation isn't compulsory but would lead to a safer and easier configuration of the mail server and is used in this document due to easier description.

The following email respectively recipient addresses exist. It is differentiated between physical addresses (with inbox, delayed pickup) and virtual addresses (mail-alias, immediate forwarding, without inbox)

Sorts of email addresses	Type	Application
{CUCO}@{MAILDOMAIN}	Physical	Address of a customer consultant
error.{BC-No}@{MAILDOMAIN}	Physical	Address, if customer consultant cannot be identified or the consultant interface hasn't assigned a consultant to the customer
toCustomer.{BC-No} @{EBANKDOMAIN}	Physical	The E-Banking system picks up certain mails for the client from this address.
contract-{Contract}-{BC-No} @{EBANKDOMAIN}	Virtual & physical ¹	Message to a single contract

Note that the part {BC-No} could be missing if only one mandate (bank of the E-Banking installation) is existent. But to keep the possibility open for a later extension to multiple mandates this part shouldn't be missing.

¹ The address contract-{Contract}-{BC-No}@{EBANKDOMAIN} is virtual on the email server @{EBANKDOMAIN} but in the E-Banking there is a mail box which is why it is physical.

5. Preconditions and necessary backend changes

5.1. Preconditions

5.1.1. CLX Digital Banking modules required

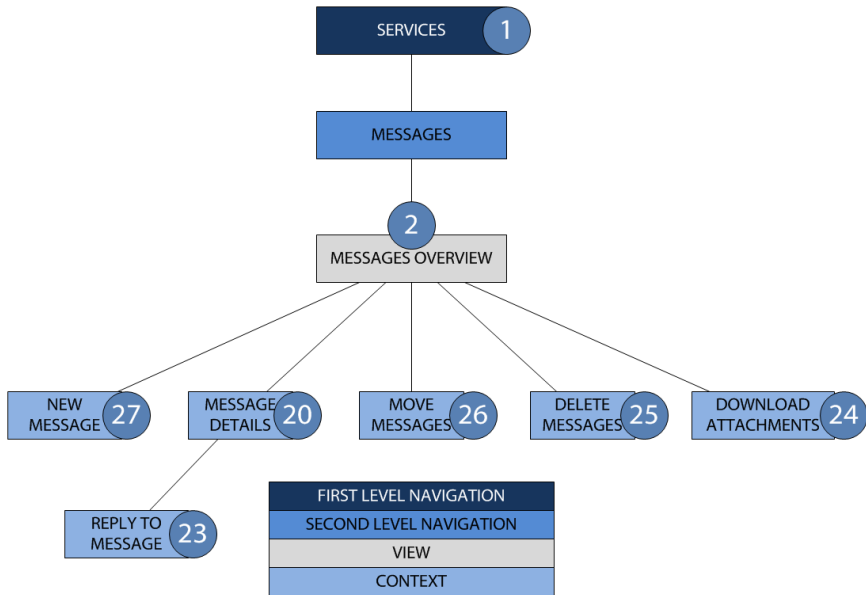
The following modules are a prerequisite for these functional enhancements and have to be licensed:

- Core system

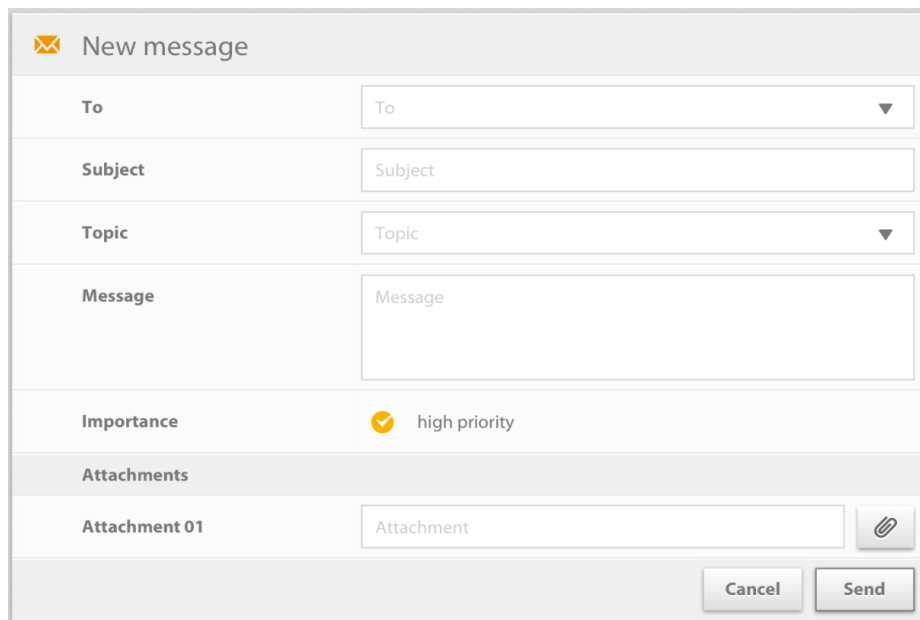
5.2. Interfaces

Since the functionality is not affected, interfaces do not change.

6. Appendix - Navigation Overview



7. Appendix: New message ***option for BKB/BC***



The only field that is optional for BKB/BC is the field 'Topic'. Everything else is according to chapter 2.1.3.13 New message

Attribute	Type	Description
Topic	Select box	The user can select the topic. The bank sets up the topics in the admin client (administration > manage message topics). This field is mandatory.

Side effects or other occurrences of the field 'topic'

Occurance	Description
Messages overview	Add 'Topic' between 'Subject' and 'Date read'
Search	Add 'Topic' below Subject
Export to Excel	Add 'Topic' between 'Subject' and 'Date read'
Export to PDF	Add 'Topic' between 'Subject' and 'Date read'

The field topic needs to be added to the message overview and also needs to be shown in pdf / csv exports. The sorting should be according to the screen 'new message' In the search the field 'Topic' needs to be added as well.

8. Appendix: Voting messages (optional feature)

Advisors can send so-called “Voting messages” to the user. This functionality can be used for example in order to request a confirmation from the customer for an investment proposal. In Digital Banking, the user can reply to voting messages by choosing one out of the proposed answers. The reply screen is different than the standard reply screen. It has reduced content (e.g. no priority, no possibility to add an attachment, no free text available), but it offers the users different choices as answer. The possible answers correspond to the voting responses the advisor has defined when sending the message. The number of possible answers is not restricted by Digital Banking.

A voting message can be composed when writing an email (from any client, eg. Outlook) by adding the options in brackets behind the subject of the message:

Subject [option 1; option 2; option n]

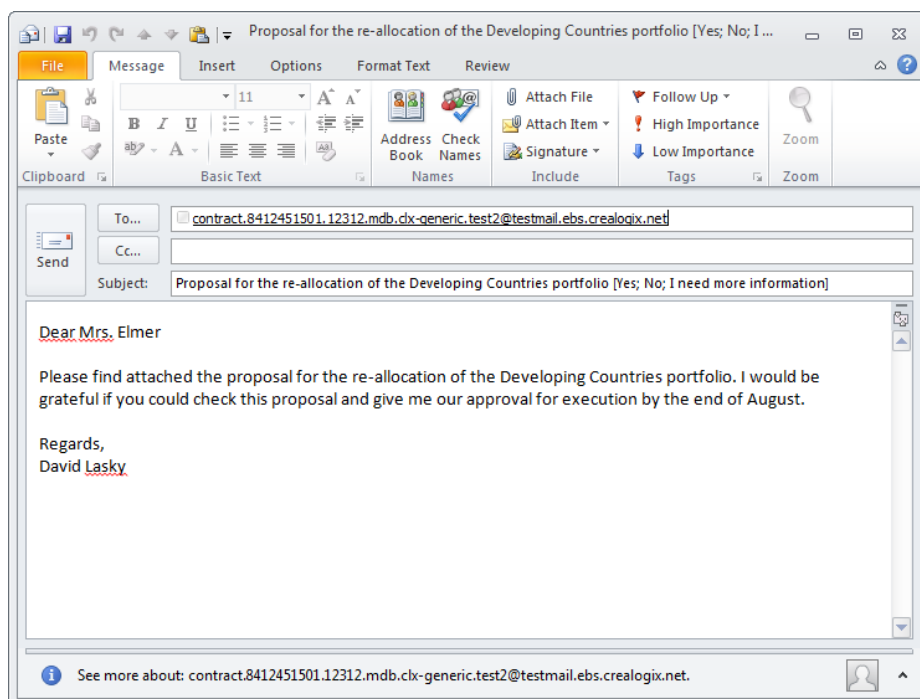


Figure 37: Voting message composition in any email client (eg. Outlook)

The given options will be removed from the message title by the system and be shown as selectable answers in the message reply.

The message body and attached documents will be presented to the user as described in chapter 2.1.3.5 Message detail.

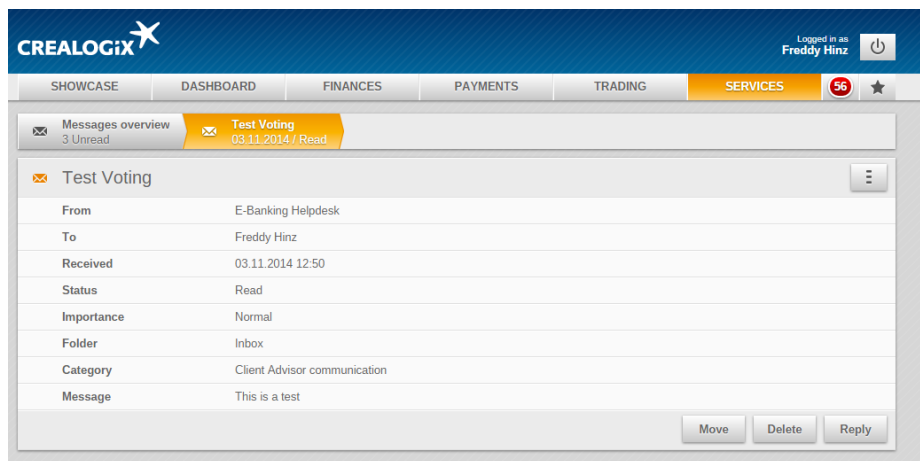


Figure 38: Voting message detail in EBAN

The given options will be presented to the user as selectable answer after the reply button has been pressed:

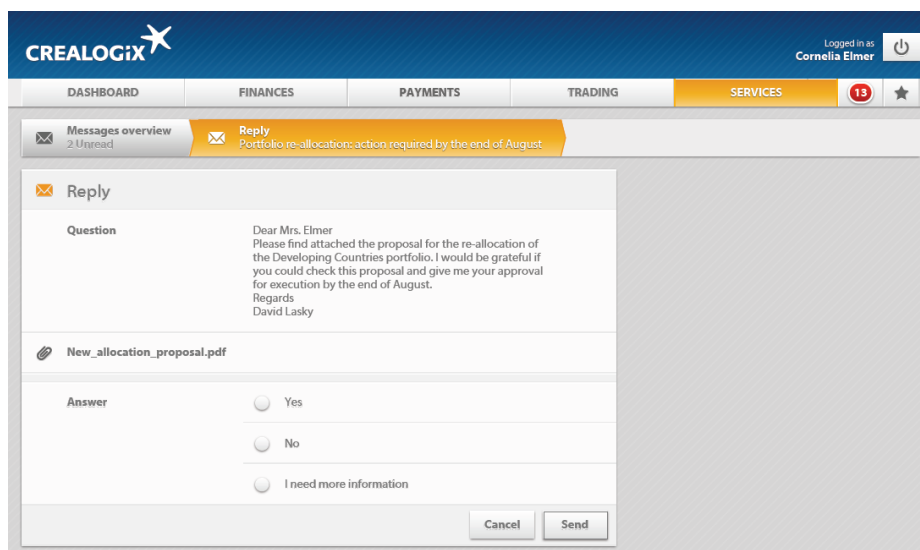
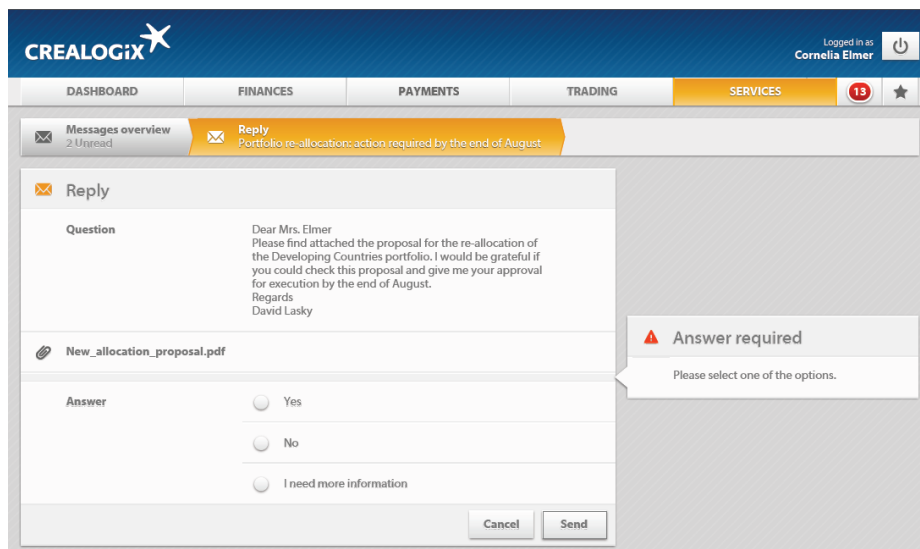





Figure 39: Reply to voting message in Digital Banking

If the user doesn't choose an answer, the system will show an error message and prompt him to make a selection:



CREALOGIX 

Logged in as **Cornelia Elmer** 


DASHBOARD FINANCES PAYMENTS TRADING SERVICES 13 

Messages overview 2 Unread **Reply** Portfolio re-allocation: action required by the end of August

Reply

Question

Dear Mrs. Elmer
Please find attached the proposal for the re-allocation of the Developing Countries portfolio. I would be grateful if you could check this proposal and give me your approval for execution by the end of August.
Regards
David Lasky

 New_allocation_proposal.pdf

Answer

☐ Yes

☐ No

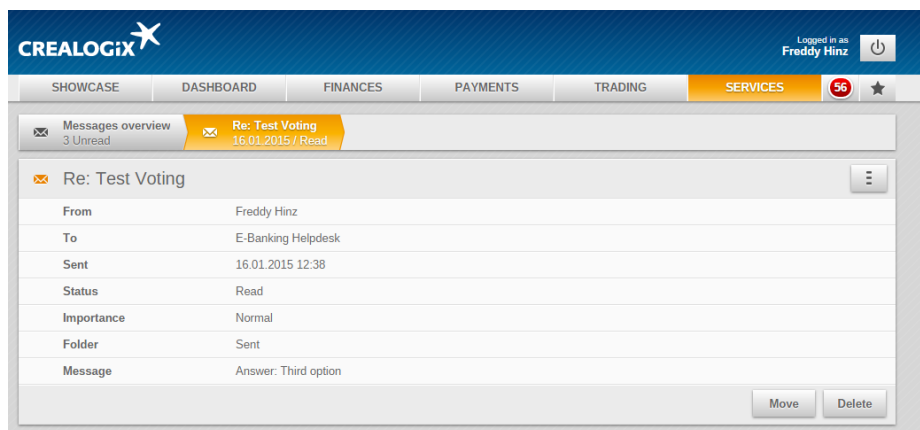
☐ I need more information


Answer required
Please select one of the options.


Cancel Send


Figure 40: Voting message error

When the customer has replied to a voting message, the selected option will be written in the body of the answer and sent to the initial sender of the voting message. In Digital Banking, the voting reply (in the sent folder) will look as follows:




CREALOGIX 

Logged in as **Freddy Hinz** 

SHOWCASE DASHBOARD FINANCES PAYMENTS TRADING SERVICES 56 

Messages overview 3 Unread **Re: Test Voting** 16.01.2015 / Read

Re: Test Voting 

From	Freddy Hinz
To	E-Banking Helpdesk
Sent	16.01.2015 12:38
Status	Read
Importance	Normal
Folder	Sent
Message	Answer: Third option

Move Delete

Figure 41: Voting message answer