



RTGS BUSINESS PROCESS USE CASES FULL SET

Buna – The Regional Payment Platform

Document information

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14.09.2019	CMA Small Systems AB	1.0	Initial Draft
28.09.2019	CMA Small Systems AB	2.0	Monitoring section is added
28.09.2019	CMA Small Systems AB	3.0	Message format types is added
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09.10.2019	DXC	4.1a	Review
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01.11.2019	CMA Small Systems AB	4.6	<p>Consolidated information facilities table was added</p> <p>Buna reports were added</p> <p>AMF comments were applied</p> <p>DXC comments were applied</p> <p>Use Case «Request and receive business day was added</p> <p>Use Case «Non-payment message validation was added”</p> <p>Use Case Request and receive business day timetable or template was added</p> <p>Use Case Change participant status upon CEB’s request was added</p> <p>Use Case Request and receive actual calendar was added</p> <p>Use Case Lock account upon CEB’s request was added</p> <p>Use Case Unlock account upon CEB’s request was added</p> <p>Used message types chapter was added</p>

			<p>Chapter «Use cases using SWIFT messaging» was added</p> <p>Chapter «Use cases using Portal» was added</p> <p>Participants Directory report was added</p> <p>Transaction type codes were added</p> <p>Reason codes for returns were added</p> <p>Billing report was added</p>
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27.04.2020	CMA Small Systems AB	5.0	Use cases UC003 «AML Check» and UC015 «Manage Queued and Suspended instructions at EOD» were changed according to CR2 and CR3
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			<p>UC003 «AML Check» comments were resolved</p> <p>UC020 «Intraday participant withdrawal requests for BPA» and UC021 «Intraday participant withdrawal requests for BPUCRSB» - moment of sending status message from Buna to Participant was changed</p> <p>UC043- Register InBuna Participant by Buna Participant via Buna Portal was added</p> <p>UC044- Modify the link of Buna Participant with InBuna Participant via Buna Portal</p> <p>UC045- Delete the link of Buna Participant with InBuna Participant via Buna Portal</p> <p>UC009: Payments on behalf of InBuna Participants – check the link between BP and IP was added to business validation rules</p>
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16.06.2021	CMA Small Systems AB	9.7	Details for processing payments received outside of FHI Settlement window were added to PM-01, PM-02 Use Cases
22.06.2021	CMA Small Systems AB	9.8	Foreign Exchange Trade Instructions cancellation at EOD details were added to QUE-05 «Manage Payments at EOD»

			LIQ-10 «Foreign exchange support» was extended
22.07.2021	CMA Small Systems AB	9.9	<p>Use Case LIQ-10 «Foreign exchange support» was enriched with Funds/account status check</p> <p>Use Case QUE-05 «Manage Payments at EOD» - Foreign Exchange Trade Instructions cancellation at EOD output message format was changed.</p>
30.09.2021	CMA Small Systems AB	9.10	Typos in NPM-09, NPM-10, NPM-11 and NPM-12 were fixed
19.10.2021	CMA Small Systems AB	9.11	Use Case PM-02 «Payment message validation» - Holidays check was moved to separate check after AML check
05.03.2022	CMA Small Systems AB	9.12	<ul style="list-style-type: none"> • Authorization by Buna Financial Administrator checker was added to QUE-03, QUE-04, NPM-06, NPM-07, NPM-09, NPM-10, NPM-11, NPM-12 Use Cases • Use case PM-02 “Payment message validation” – Holidays check was added to the Business validation check (enhancement was developed)
12.10.2022	CMA Small Systems AB	10.2	Use Case LIQ-12: «Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation» was moved from IPS Use Cases
03.11.2022	CMA Small Systems AB	11	<p>2 use cases were added:</p> <ul style="list-style-type: none"> • Use Case LIQ-13: «Set FX rate by FX Provider» • Use Case LIQ-14: «Delete FX rate by FX Provider»
19.06.2023	CMA Small Systems AB	12	<p>Master-Linked participants Use cases added:</p> <ul style="list-style-type: none"> • Use Case NPM-14 – Create new MP – LP link via Buna Portal

			<ul style="list-style-type: none"> • Use Case NPM-15 – Modification of the MP – LP link via Buna Portal
12.07.2023	CMA Small Systems AB	13	<p>Master-Linked participants Use cases added:</p> <ul style="list-style-type: none"> • Use Case NPM-16 – Remove MP – LP link via Buna Portal <p>Master-Linked participants Use cases updated:</p> <ul style="list-style-type: none"> • Use Case NPM-14 – Create new MP – LP link via Buna Portal • Use Case NPM-15 – Modification of the MP – LP link via Buna Portal <p>Master-Linked performance report added</p>
31.01.2024	CMA Small Systems AB	14	<p>Report «Master - Linked performance report»</p> <p>Statement removed “FHI and Currency fields will be blank in this case”</p>

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1 GLOSSARY

ABBREVIATION OR TERM	DESCRIPTION
Buna	Arab regional payment system
AMF	Arab Monetary Fund
FHI	Fund holding institution. It will be the Central Bank of issuance of a currency supported by Buna, if the currency passes Buna eligibility criteria. Where this is not possible (i.e. currencies outside the Arab region), commercial banks will be utilized as the fund holding institution
PSFHI	Payment System of the FHI
Buna Participant (BP) Master Participant (MP)	Participant, registered at Buna with type “Buna Participant”, having an account at Buna. Central Banks, should they choose to do so, may also be Buna Participants in Buna, submitting cross-border payments on their behalf or on behalf of their local market participants
Correspondent Bank (CRSB)	A Bank, having an account at the FHI Payment system, used by Buna Participants for top-up and withdrawal in a case where they do not have an account at the PSFHI
BPA	Buna Participant of Buna having an account at the PSFHI
BPUCRCB	Buna Participant of Buna using a correspondent bank for top-up and withdrawal, because it does NOT have an account at the PSFHI
SA	Settlement account
CEB	Central Banks, who are within the same country as a participant of Buna. Regulatory authority institutions for Buna Participants. They can also act as a Buna Participant sending their payments to the system
Linked Participant (MP)	Participant, having NO account at Buna. Could be registered at Buna with the type “Master Participant”
Non-registered participant 8***	Participant, which is not registered inside the Buna core database, but it has a BIC with the same first 8 digits as a Registered participant

2 SYSTEM TOPOLOGY

2.1 SYSTEM TOPOLOGY FOR FHIS

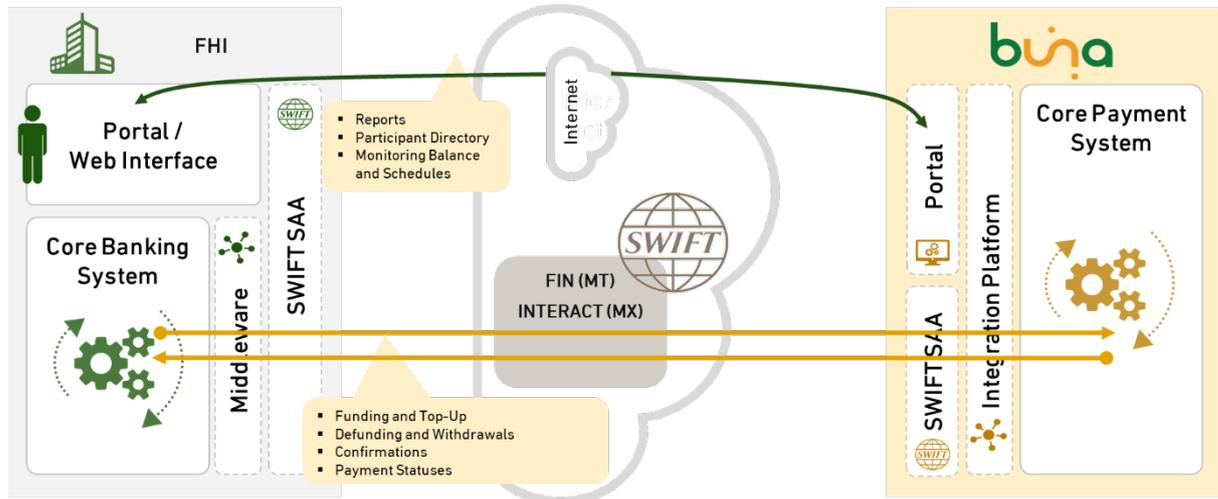


Figure 1: FHI Interaction with Buna

The FHIs will interact with Buna in 2 ways:

1. Via SWIFT messages
 - a. For MT messages via SWIFT FIN
 - b. For MX messages via SWIFT INTERACT
2. Via Web the Portal (Graphical User Interface)

The FHIs will send and receive the following messages via **SWIFT**:

1. Funding and top-up messages
2. Defunding and withdrawals
3. Confirmations
4. Payment statuses
5. Statement report

The FHIs will have access to **Portal (GUI)** provided by Buna in order to check the following:

1. Reports
2. Participant Directory (will be generated in Excel or xml format for upload to the FHI Payment system)
3. Monitoring facilities:
 - a. Balances
 - b. Funding and de-funding operations
 - c. Business day schedule
 - d. Calendar
 - e. Text messages
 - f. Limits

2.2 SYSTEM TOPOLOGY FOR BUNA PARTICIPANTS

The below picture illustrates how the Buna Participants will interact with Buna:

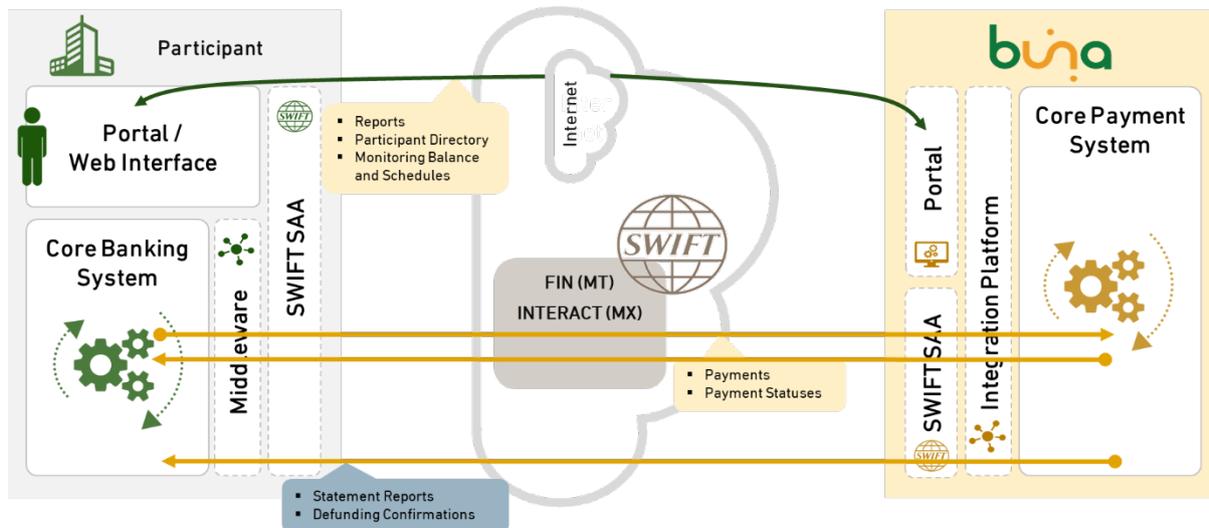


Figure 2: Participant interaction with Buna

The Buna Participants will interact with Buna in 3 ways:

1. Via SWIFT messages
 - a. For MT messages via SWIFT FIN
 - b. For MX messages via SWIFT INTERACT
2. Via the Portal
3. Via APIs

The Buna Participant will send and receive the following messages via **SWIFT**:

1. Funding and top-up messages
2. Defunding and withdrawals
3. Payments
4. Payment control messages
5. Confirmations
6. Payment statuses
7. Statement report

The Buna Participant will have access to a **Portal** provided by Buna in order to check the following:

1. Reports
2. Participant Directory (will be generated in Excel or xml format for upload to the payment system of the FHI)
3. Dispute Management
4. Payment control functions
5. Monitoring facilities:
 - a. Balances
 - b. Funding and de-funding operations
 - c. Business day schedule
 - d. Calendar
 - e. Text messages
 - f. Limits

The Buna Participant will have access to Buna APIs for:

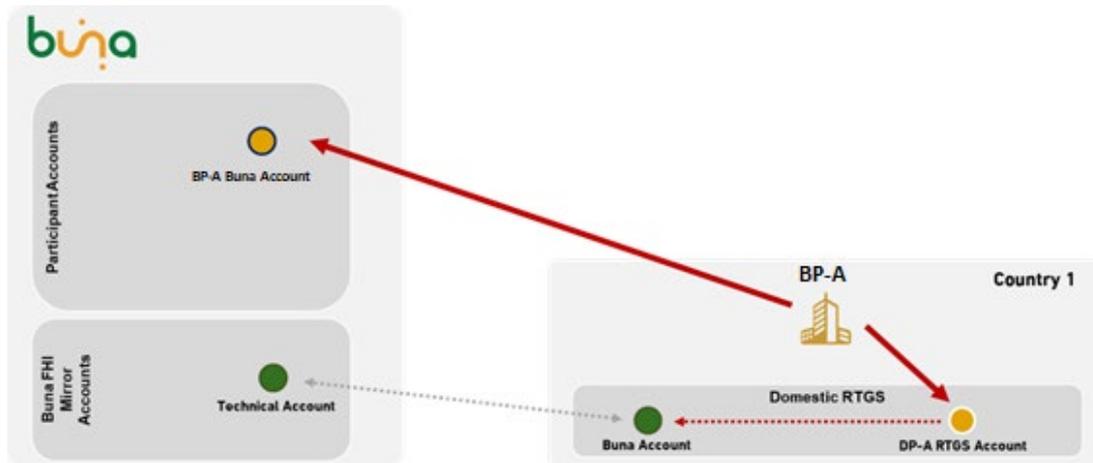
1. Reporting

3 ACCOUNT TOPOLOGY

There will be several accounting schemes at Buna:

1. Buna Participant has an account at the Payment System of the FHI (BPA)
2. Buna Participant uses their correspondent bank for top-up and withdrawal, because it has no account in the Payment System of the FHI (BPUCRSB)

3.1 ACCOUNTING SCHEME FOR BPA



3.2 ACCOUNTING SCHEME FOR BPUCRSB

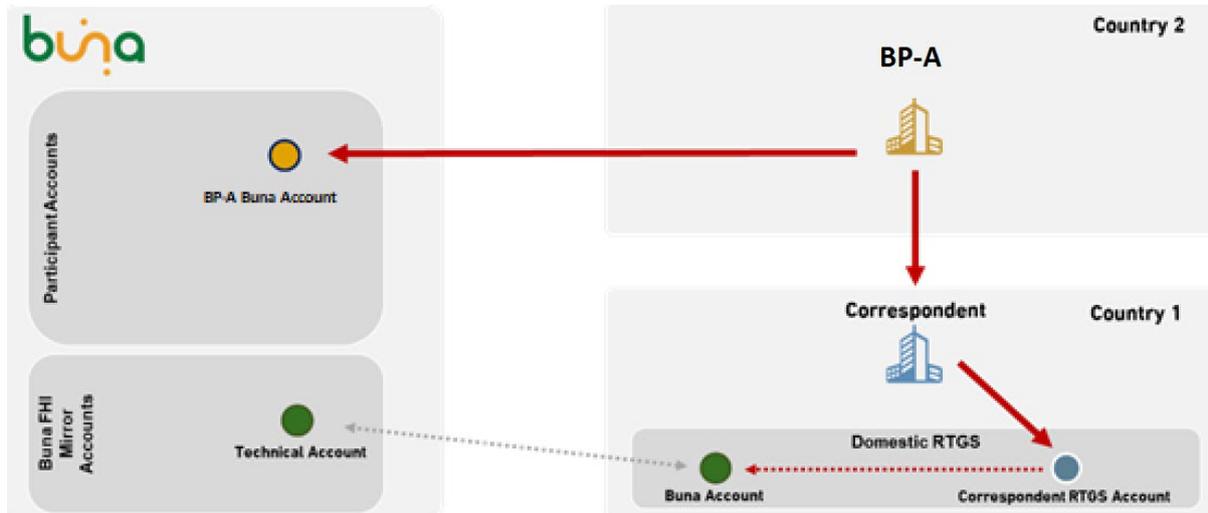


Figure 3: Accounting scheme for BPUCRSB

4 BUSINESS PROCESS USE CASES LIST

4.1 PAYMENT PROCESSING USE CASES

Buna Participants have access to a list of payment processing use cases that extend from the “General Payment processing” use case:

- Interbank Transfer
- Customer Credit Transfer
- Batch Transfer
- Return Payment

The “General Payment Processing” use case includes the following sub-process use cases:

- Message Validation
- Gridlock Resolution
- Queueing
- Resolve Queue

ID	NAME	DESCRIPTION
PM-01	General Payment processing	Abstract use case to describe general behavior for all payment processing related operations
PM-02	Message validation	Perform security, syntax, business validation, limits check and AML check
PM-03	AML Check	AML Check will be done according to its mode setting
PM-04	Queueing	Describes the usage of the queueing mechanism for a lack of liquidity case
PM-05	Resolve queue	Describes the process of changes in queue processing
PM-06	Interbank Transfer	Execute payment processing on a Buna Participant's accounts for interbank transfers.
PM-07	Customer credit Transfer	Execute payment processing on a Buna Participant's accounts for customer transfers
PM-08	Batch Transfers	Settle batches of transactions to support remittance payments
PM-09	Return Payment	Return Payment
PM-10	Gridlock Resolution	Execute the gridlock resolution to settle queued payments

4.2 QUEUE MANAGEMENT USE CASES

Both Buna Participants and Buna operators have access to the cancellation and change of queue management use cases.

Additionally, Buna has access to an additional use case: discard queued transactions at EOD

ID	NAME	ROLE	DESCRIPTION
QUE-01	Cancellation of an unsettled payment by a participant	BPs	Cancel queued payments initiated by a participant
QUE-02	Change the priority of an unsettled payment by a participant	BPs	Change the priority of queued payments initiated by a participant

QUE-03	Cancellation of an unsettled payment by an operator	Buna	Cancel the queued payments initiated by an operator
QUE-04	Change the priority of an unsettled payment by an operator	Buna	Change priority of queued payments initiated by an operator
QUE-05	Manage Payments at EOD	Buna	Cancellation and moving payments to the next business day dates

4.3 LIQUIDITY MANAGEMENT USE CASES

Both FHIs and Buna Participants have access to all the liquidity management use cases listed in the table with the only exception of “receive notifications about top-up needed” use case which is only allocated to the Buna Participants.

ID	NAME	ROLE	DESCRIPTION
LIQ-01	SOD Funding for BPA	FHI, BPs	The transfer of funds by a participant to its Settlement account held in Buna at the start of the day for the case when a participant has an account in the FHI Payment system
LIQ-02	SOD Funding for BPUCRSB	FHI, BPs	The transfer of funds by a participant to its Settlement account held in Buna at the start of the day. This is for the case when a participant DOES NOT have an account in the FHI Payment system
LIQ-03	Intra-day top-up for BPA	FHI, BPs	The transfer of funds by a participant to its Settlement account held in Buna during the day. This is for the case when a participant has an account in the FHI Payment system
LIQ-04	Intra-day top-up for BPUCRSB	FHI, BPs	The transfer of funds by a participant to its Settlement account held in Buna during the day. This is for the case when a participant DOES NOT have an account in the FHI Payment system
LIQ-05	Intra-day participant withdrawal requests for BPA	FHI, BPs	An Intra-day participant withdrawal from its Settlement account held in Buna upon request. This is for the case when a participant has an account in the FHI Payment system
LIQ-06	Intra-day participant withdrawal requests for BPUCRSB	FHI, BPs	An Intra-day participant withdrawal from its Settlement account held in Buna upon request. This is for the case when a participant DOES NOT have an account in the FHI Payment system
LIQ-07	End-of day participant de-funding of net credit balances for BPA	FHI, BPs	At the end of Buna business day (for a specified currency), Buna transfers fund balances for participants to the FHI Payment system (in case where the participant has NO account in the FHI Payment system)
LIQ-08	End-of day participant de-funding of net credit balances for BPUCRSB	FHI, BPs	At the end of Buna business day (for a specified currency), Buna transfers fund balances for participants to the Payment system of their FHI (this use case is for when the participant does NOT have an account in the FHI Payment system)

LIQ-09	Receive notifications about top-up needed	BPs	Receive any notifications about a top-up required from Buna
LIQ-10	Foreign exchange support	BPs, FX Provider	Foreign exchange can be done using Foreign Exchange Trade Instructions
LIQ-11	Foreign exchange Trade Instruction cancellation	BPs, FX Provider	Foreign exchange Trade Instruction cancellation
LIQ-12	Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation	BPs, FX Provider	Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation
LIQ-13	Set FX rate by FX Provider	FX Provider	Register currency pair for the Trade date with optional FX rate data by FX Provider
LIQ-14	Delete FX rate by FX Provider	FX Provider	Remove currency pair for the Trade date by FX Provider

4.4 REQUEST AND REPORT USE CASES

The Buna Participants have access to the below list of Request and Report use cases, while the FHIs have only access to the “Report Request” use case.

ID	Name	Role	Description
RPT-01	Report Request	FHI, BPs	A use case to describe common behaviors for all report request use cases
RPT-02	Receive EOD Statement	BPs	Receive an EOD Statement at the end of business day
RPT-03	Request and Receive Account Balance Report	BPs	Receive an Account Balance Report when requested by the Participant
RPT-04	Request transaction status	BPs	Request the current status of a transaction

4.5 NON-PAYMENT MESSAGE FLOWS

The full list of non-payment message use cases is displayed below:

ID	Name	Role	Description
NPM-01	Non-payment Message validation	CEB, FHI, BPs	The general validation process for all incoming non-payment messages. Validation rules could be extended in other use cases for specific scenarios
NPM-02	Broadcast text message	CEB, FHI	The FHI can send a broadcast text message to all or to selected participants

ID	Name	Role	Description
NPM-03	Text messages between participants	CEB, FHI, BPs	The FHI or Buna Participant can send messages to each other (one to one)
NPM-04	Receive business day notifications	CEB, FHI, BPs	Automatically receive business day notifications for manual business day changes and automatic change of the settlement window
NPM-05	Request and receive the business day timetable	CEB, FHI, BPs	Request and receive the business day timetable
NPM-06	Change participant status upon CEB's request	CEB	Change a participant's status upon a CEB's request
NPM-07	Change participant status by Buna Financial administrator	Buna	Change a participant's status by a Buna Financial administrator
NPM-08	Request and receive an actual calendar	CEB, FHI, BPs	Receive an actual calendar upon Participant's request
NPM-09	Lock account upon CEB's request	CEB	Lock an account for debit, credit or both upon CEB's request
NPM-10	Lock account upon Buna Financial Administrator request	Buna	Lock an account for debit, credit or both upon Buna Financial Administrator's request
NPM-11	Unlock account upon CEB's request	CEB	Unlock an account for debit, credit or both upon CEB's request
NPM-12	Unlock account upon Buna Financial Administrator request	Buna	Unlock an account for debit or credit or both upon Buna Financial Administrator's request
NPM-13	Currency suspension	BPs	Currency suspension
NPM-14	Create new MP – LP link via Buna Portal	MPs	Master Participant creates a link with its Linked Participant via Buna Portal GUI
NPM-15	Modify of the MP – LP link via Buna Portal	MPs	Master Participant modifies the link with its Linked Participant via Buna Portal

ID	Name	Role	Description
NPM-16	Remove of the MP – LP link via Buna Portal	MPs	Master Participant deletes the link with its Linked Participant via Buna Portal

4.6 BILLING USE CASES

Currently, there is a single use case in this category, and it is used by Buna Participants to receive invoices generated by the system.

ID	NAME	ROLE	DESCRIPTION
BILL-01	Receive invoices on a periodic basis	BPs	Receive invoices, generated by Buna
BILL-02	Request for payment of charges processing	BPs	Request for payment of charges from one participant to another

4.7 COMMUNICATION AND INQUIRY USE CASES

Only Buna Participants have access to the customer relationship use case.

ID	NAME	ROLE	DESCRIPTION
COM-01	Buna Participant – Buna Participant Process Inquiry	BPs	Process Inquiry between BP and BP via the Communication and Inquiry Management Module
COM-02	Compliance officer - BP Process Inquiry	Compliance officer, BP	Process Inquiry between Compliance officer and BP via the Communication and Inquiry Management Module

4.8 PRE-VALIDATION AND CONSULTATION SERVICE USE CASES

Only Buna Participants have access to the customer relationship use case.

ID	NAME	ROLE	DESCRIPTION
CONS-01	Request exchange rate from the FX Provider	BPs	Request exchange rate from the FX Provider

4.9 MESSAGE TYPES

4.9.1 The Incoming Messages Processed by The System

The messages below can be sent by Commercial banks, FHIs and Buna Administrators according to their access rights.

MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
MT103	pacs.008	Single Customer Credit Transfer
MT202	pacs.009	Interbank transfer
MT202	pacs.009	Withdrawal request
MT202	pacs.004	Return transfer
MT192	camt.056	Request for cancellation
MT292	camt.056	Request for cancellation
MT195	camt.087	Request to change priority
MT295	camt.087	Request to change priority
MT920	camt.060	Requesting balance report or Interim transaction report
MT999	camt.998	Text message
MT999	camt.998	Changing participant status
MT999	camt.998	Locking/unlocking account
MT195	pacs.028	Requesting status of transfer
MT295	pacs.028	Requesting status of transfer
MT999	camt.018	Requesting business day schedule
MT999	reda.064	Requesting system calendar
MT298/300	fxtr.014	Foreign exchange trade instruction
MT298/392	fxtr.016	Foreign Exchange Trade instruction Cancellation request
MT298/377	camt.998	Set currency exchange rate
MT298/378	camt.998	Delete currency exchange rate

The messages can be sent by FHI systems.

MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
MT202	pacs.009	Funding, top-up
MT296	pacs.002	Reply to Mid-day Withdrawal or Defunding
MT296	admi.002	Message rejection

4.9.2 The outgoing messages created by the system

The messages can be sent to Commercial banks, FHI and Buna Administrators according to their access rights.

MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
MT103	pacs.008	Single Customer Credit Transfer
MT202	pacs.009	Interbank transfer
MT202	pacs.004	Return transfer
MT204	pacs.010	Financial Markets Direct Debit Message (De-funding message)
MT196	camt.029	Reply on cancellation or change priority request

MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
MT296	camt.029	Reply on cancellation or change priority request
MT196	camt.025	Processing notification
MT296	camt.025	Processing notification
MT996	camt.025	Processing notification
MT941	camt.052	Balance report
MT999	camt.052	Account status
MT999	camt.998	Participant status
MT999	camt.019	Business day schedule
MT196	pacs.002	Status of transfer
MT296	pacs.002	Status of transfer
MT196	admi.002	Message rejection
MT296	admi.002	Message rejection
MT996	admi.002	Message rejection
MT999	reda.065	System calendar
MT999	camt.998	Text message
MT950	camt.053	Statement of account
MT986	camt.052	Notification of participants about top-up needed
MT296	fxtr.017	FX Trade Status and Details Notification
MT296	fxtr.013	Cancellation status message
MT298	camt.017	Information on current exchange rates

The messages can be received by FHI systems.

MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
MT202	pacs.009	Defunding or Withdrawal
MT296	pacs.002	Reply to Top-up or Funding
MT296	admi.002	Message rejection
MT296	camt.025	Reply to Top-up or Funding in case of access rights violation

4.10 Number of messages per each use case

ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use Case PM-06	Interbank Transfer (successful flow)	In total: 1			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
					1 (one of listed)	MT296	camt.025
						MT296	pacs.002
				MT296	admi.002		
Use Case PM-07	Customer credit Transfer (successful flow)	In total: 1			In total: 2		
		1	MT103	pacs.008	1	MT103	pacs.008
					1 (one of listed)	MT196	camt.025
						MT196	pacs.002
				MT196	admi.002		
Use Case PM-09	Return Payment (successful flow)	In total: 1			In total: 2		
		1	MT202	pacs.004	1	MT202	pacs.004
					1 (one of listed)	MT296	camt.025
						MT296	pacs.002
				MT296	admi.002		
Use Case QUE-01	Cancellation of Credit Transfer by participant	In total: 1			In total: 1		



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
		1 (one of listed)	MT192 MT292	camt.056 camt.056	1 (one of listed)	MT196 MT296 MT196 MT296	camt.029 camt.029 admi.002 admi.002
Use Case QUE-02	Change priority of unsettled payment by participant	In total: 1		In total: 1			
		1 (one of listed)	MT195 MT295	camt.087 camt.087	1 (one of listed)	MT196 MT296 MT196 MT296	camt.029 camt.029 admi.002 admi.002
Use Case QUE-03	Cancellation of queued payment by operator	In total: 0		In total: 1			
					1 (one of listed)	MT196 MT296	pacs.002 pacs.002
Use Case QUE-04	Change priority of unsettled payment by operator	In total: 0		In total: 1			
					1	MT196 MT296 MT196	pacs.002 pacs.002 camt.029



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
					(one of listed)	MT296	camt.029
Use Case QUE-05	Manage Queued and Suspended Instructions at EOD	In total: 0			In total: 1		
					1	MT196	pacs.002
					(one of listed)	MT296	pacs.002
Use Case LIQ-01	SOD Funding for BPA	In total: 1			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
					1	MT296	camt.025
					(one of listed)	MT296	pacs.002
						MT296	admi.002
Use Case LIQ-02	SOD Funding for BPUCRSB	In total: 1			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
					1	MT296	camt.025
					(one of listed)	MT296	pacs.002
						MT296	admi.002
	Intra-day top-up for BPA	In total: 1			In total: 2		



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use Case LIQ-03		1	MT202	pacs.009	1	MT202	pacs.009
					1	MT296	camt.025
					(one of listed)	MT296	pacs.002
						MT296	admi.002
Use Case LIQ-04	Intra-day top-up for BPUCRSB	In total: 1			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
					1	MT296	camt.025
					(one of listed)	MT296	pacs.002
						MT296	admi.002
Use case: LIQ-05	Intra-day participant withdrawal requests for BPA	In total: 2			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
		1	MT296	pacs.002	(one of listed)	MT296	camt.025
			MT296	admi.002		MT296	pacs.002
		(one of listed)	MT296	camt.025		MT296	admi.002
Use case: LIQ-06	Intra-day participant withdrawal requests for BPUCRSB	In total: 2			In total: 2		
		1	MT202	pacs.009	1	MT202	pacs.009
		1	MT296	pacs.002	(one of listed)	MT296	camt.025
			MT296	admi.002		MT296	pacs.002
		(one of listed)	MT296	camt.025		MT296	admi.002



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use case LIQ-07	End-of day participant defunding of net credit balances for BPA	In total: 1			In total: 2		
		1 (one of listed)	MT296	pacs.002	1	MT202	pacs.009
			MT296	admi.002	1	MT204	pacs.010
			MT296	camt.025			
Use case LIQ-08	End-of day participant defunding of net credit balances for BPUCRSB	In total: 1			In total: 2		
		1 (one of listed)	MT296	pacs.002	1	MT202	pacs.009
			MT296	admi.002	1	MT204	pacs.010
			MT296	camt.025			
Use Case LIQ-09	Receive notification about top-up needed	In total: 0			In total: 1		
					1	MT986	camt.052/ TPND
Use Case LIQ-10	Foreign exchange support	In total: 2			In total: 11		
		2	MT298/300	fxtr.014	7	MT296	fxtr.017
					2	MT900	camt.054
					2	MT910	camt.054
Use Case LIQ-11	Foreign exchange Trade Instruction cancellation	In total: 1			In total: 1		
		1	MT298/392	fxtr.016		MT296/FX CX	fxtr.013



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
					1	MT296	camt.025
					(one of listed)	MT996	admi.002
Use Case LIQ-12	Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation	In total: 2			In total: 11		
		2	MT298/300	fxtr.014	7	MT296	fxtr.017
					2	MT900	camt.054
					2	MT910	camt.054
Use Case LIQ-13	Set FX rate by FX Provider	In total: 1			In total: 2		
		1	MT298/377	camt.998	1	MT298	camt.017
					1	MT296	camt.025
					1 (negative scenario)	MT996	admi.002
Use Case LIQ-14	Delete FX rate by FX Provider	In total: 1	In total: 1				
		1	MT298/378	camt.998	1	MT296	camt.025
					(one of listed)	MT996	admi.002



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA	
Use Case RPT-02	Receive EOD Statement	In total: 0			In total: 1			
					1	MT950	Camt.053	
Use Case RPT-03	Request and receive Account Balance Report	In total: 1			In total: 1			
		1	MT920/ 941	camt.060/BALR	1 (one of listed)	MT998/ RJCT	admi.002	
						MT998/	camt.025	
						ERRC MT941	camt.052/ BALR	
Use Case RPT-04	Request Transaction Status	In total: 1		In total: 1				
		1	MT195	pacs.028	1 (one of listed)	MT196	pacs.002	
		(one of listed)	MT295	pacs.028		MT296	pacs.002	
							MT196	camt.025
							MT296	camt.025
			MT198/ RJCT	admi.002				



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
						MT298/ RJCT	admi.002
Use Case NPM-02	Broadcast text message	In total: 0			In total: 1		
					1	MT999/ TEXT	camt.998/ text Message
Use Case NPM-03	Text messages between participants	In total: 1 (or 0 in a case of sending via portal)			In total: 1 (or 0 in a case of sending via portal)		
		1	MT999	camt.998/ text Message	1 (one of listed)	MT999/ TEXT	camt.998
						MT998/ ERRC	camt.025
						MT998/ RJCT	admi.002
Use Case NPM-04	Receive business day notifications	In total: 0			In total: 1		
					1	MT999/ SCDW	camt.019



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use Case NPM-05	Request and receive business day timetable or template	In total: 1			In total: 1		
		1	MT999/ GSCD	camt.018	1 (one of listed)	MT999/ SCDW	camt.019
						MT998/ ERRC	camt.025
						MT998/ RJCT	admi.002
Use Case NPM-06	Receive Change participant status notification	In total: 0			In total: 1		
					1	MT999	camt.998
Use Case NPM-07	Change participant status upon CEB's request	In total: 1			In total: 1		
		1	MT999/ MPST	camt.998/ change Partic Status	1 (one of listed)	MT999/ PSTS	camt.998/ participant Sts Rep
						MT998/ RJCT	admi.002
						MT998/ ERRC	camt.025



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use Case NPM-08	Request and receive actual calendar	In total: 1			In total: 1		
		1	MT999/ GCLD	reda.064	1 (one of listed)	MT999/ CLDR	reda.065
						MT998/ RJCT	admi.002
						MT998/ ERRC	camt.025
Use Case NPM-11	Lock account upon CEB's request	In total: 1			In total: 1		
		1	MT999/ LCKA	camt.998/ lock Account	1 (one of listed)	MT999/ ACST	camt.052/ ACST account Status
						MT998/ RJCT	admi.002
						MT996/ ERRC	camt.025
		In total: 1		In total: 1			



ID	NAME	NUMBER OF INCOMING TO BUNA*	MT INCOMING TO BUNA	MX INCOMING TO BUNA	NUMBER OF OUTGOING FROM BUNA*	MT OUTGOING FROM BUNA	MX OUTGOING FROM BUNA
Use Case NPM-11	Unlock account upon CEB's request	1	MT999/ ULKA	camt.998/ unlock Account	1 (one of listed)	MT999/ ACST	camt.052/ ACST account Status
						MT998/ RJCT	admi.002
						MT996/ ERRC	camt.025

*Only successful flows were accounted. Negative scenarios will have equal or less messages (please, see each use case for details).

4.11 MESSAGES FOR FUND HOLDINGS INSTITUTIONS

Case #	Use Case Name	Description	Messages from FHI	Messages to FHI	Comment
LIQ-01	SOD Funding for BPA.	Transfer of funds by a participant to its settlement account held in Buna at the start of the day for the case when a participant has an account in the FHI Payment system	MT202/ pacs.009 Funding, top-up	MT296/ camt.025 Processing notification MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection	
LIQ-02	SOD Funding for BPUCRSB	Transfer of funds by a Participant to its Settlement account held in Buna at the start of the day for the case when a participant has NO account in the FHI Payment system	MT202/ pacs.009 Funding, top-up	MT296/ camt.025 Processing notification MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection	
UC018	Intra-day top-up for BPA.	Transfer of funds by a participant to its Settlement account held in Buna during the day for the case when a participant has an account in the FHI Payment system	MT202/ pacs.009 Funding, top-up	MT296/ camt.025 Processing notification MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection	
UC019	Intra-day top-up for BPUCRSB	The transfer of funds by a participant to its Settlement account held in Buna during the day	MT202/ pacs.009 Funding, top-up	MT296/ camt.025 Processing notification	

		for the case when the participant does NOT have an account in the FHI Payment system		MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection	
UC02 0	Intra-day participant withdrawal requests for BPA.	Intra-day participant withdrawal from its Settlement account held in Buna upon request for the case when a participant has account in the FHI Payment system.	MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection MT296/ camt.025 Processing notification	MT202/ pacs.009 Withdrawal request	
UC02 1	Intra-day participant withdrawal requests for BPUCRSB	Intra-day participant withdrawal request from its Settlement account held in Buna upon request for the case when the participant does NOT have an account in the FHI Payment system	MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection MT296/ camt.025 Processing notification	MT202/ pacs.009 Withdrawal request	
UC02 2	End-of day participant de-funding of net credit	At the end of Buna operating day for a currency, Buna transfers excess balances for	MT296/ pacs.002 Status of transfer	MT202/ pacs.009 De-funding message	

	balances for BPA	participants during the de-funding window via the FHI Payment system back to the participant account (for a case when the participant has an account in the FHI Payment system)	MT296/ admi.002 Message rejection		
			MT296/ camt.025 Processing notification		
UC02 3	End-of day participant de-funding of net credit balances for BPUCRSB	At the end of Buna operating day for a currency, Buna transfers excess balances for participants during the de-funding window via the FHI Payment system back to the correspondent bank (whenever the participant has NO account in the FHI Payment system). Afterwards, the correspondent bank credits the participant account in its Core banking system	MT296/ pacs.002 Status of transfer MT296/ admi.002 Message rejection MT296/ camt.025 Processing notification	MT202/ pacs.009 De-funding message	
UC02 5	Report Request	This Use case describes common behavior for all report request use cases initiated by a participant from the WEB Front GUI (Portal)	–	–	Buna Portal
UC03 0	Broadcast text message	FHIs can send broadcast text messages to all or to selected participants of the system		MT999/TEXT - camt.998/ text Message Text Message	

UC03 2	Receive business day notifications	Automatically receive business day notifications for manual business day changes and automatic changes in the window.		MT999/SCDW - camt.019 Business day notifications	
UC03 3	Request and receive a business day timetable or template	Request and receive a business day timetable or template for future date template	MT999/GSCD - camt.018 Request for the business day timetable	MT999/SCDW - camt.019 Timetable/template. MT996/ERRC - camt.025 Error message. MT996/RJCT - admi.002 Rejection message.	
UC03 4	Receive a change participant status notification	Automatically receive notifications for a participant's status changes		MT999/ camt.998 Change participant status notification	
UC03 5	Change participant's status upon CEB's request	Change participant's status based on a request from National Central Banks	MT999/MPST - camt.998/changeParticStatus Change participant status request		Only applicable to Central Banks

UC03 6	Receive a Calendar change notification	Automatically receive notifications for calendar changes for an FHI (for an example, when an additional holiday occurs)		<p>MT999/PSTS - camt.998/ participantStsRep Change participant status notification.</p> <p>MT996/ERRC - camt.025 Error message.</p> <p>MT996/RJCT - admi.002 Rejection message.</p>	
UC03 7	Request and receive an actual calendar	Receive the actual calendar when requested by the Participant	MT999/GCLD - reda.064 Requesting system calendar	<p>MT999/CLDR - reda.065 System calendar</p> <p>MT996/ERRC - camt.025 Error message</p> <p>MT996/RJCT - admi.002 Rejection message</p>	
UC03 8	Lock an account upon the CEB's request	Lock an account for debit or credit or both upon CEB's request	MT999/LCKA - camt.998/lock Account Locking account	<p>MT999/ASTS - camt.052/ASTS Account status</p> <p>MT996/ERRC - camt.025 Error message</p> <p>MT996/RJCT - admi.002 Rejection message</p>	Only applicable to Central Banks
UC03 9	Unlock an account	Unlock an account for debit or credit or both	MT999/ULKA - camt.998/ unlock Account	MT999/ASTS - camt.052/ASTS Account status	Only applicable to

	upon CEB's request	following a CEB's request	Unlocking account	MT996/ERRC - camt.025 Processing error MT996/RJCT - adm.002 Rejection message	Central Banks
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4.12 USE CASES USING PORTAL

ID	NAME
Use Case UC025	Report Request
Use Case UC030	Broadcast text message
Use Case UC031	Text messages between participants
Use Case UC040	Receive Invoices on a periodic basis
Use Case UC041	Request Return

4.13 TRANSACTION TYPE CODES

TRANSACTION TYPE CODE (PURPOSE)	TRANSACTION & BUSINESS CATEGORY
	Dedicated business processes
090	Fee for participation and activity in the system
091	Start-of-day Funding
092	Mid-day top-up
093	Return
094	Mid-day withdrawal
095	End-of-day Defunding
	CROSS-BORDER SETTLEMENT CONDUCTED FOR TRADE IN GOODS
101	Individual retail consumptions
102	General merchandise
103	Goods for processing
104	Goods required for repairing
105	Goods procured in ports by carriers
106	Transactions to be settled by a letter of credit
107	Bills for collection
108	Payment of import equipment
109	Advanced payment
	CROSS-BORDER SETTLEMENT CONDUCTED FOR TRADE IN SERVICES
201	Services or fees relating to transportation
202	Individual bill payments
203	Travel
204	Communications

TRANSACTION TYPE CODE (PURPOSE)	TRANSACTION & BUSINESS CATEGORY
205	Construction services
206	Installation projects and their subcontract services
207	Insurance
208	Financial services
209	Computer and information services
210	Royalties and license fees
211	Sports and entertainment
212	Water, electricity and gas bills to be paid by corporations or financial institutions
213	Rent
214	Audit fees
215	Hotel accommodation fees
216	Legal fees
217	Advertising and promotion fees
218	Research and development fees
219	Company registration fees
220	Medical expenses
221	Government services not mentioned above and other
222	Copyright and design fees
223	Commercial services
	CROSS-BORDER SETTLEMENT CONDUCTED FOR CAPITAL ACCOUNT TRANSACTIONS
301	Capital transfers and acquisition/disposal of non-productive or non-financial assets
302	Capital injection
303	Capital reduction
304	Capital payment
305	Direct investments
306	Securities investments
307	Other investments
308	Shareholder's loan/repayment
309	Fund transfers for foreign direct investment ("FDI")
310	Bonds
311	Fund transfer between enterprises
312	Individual investments
	CROSS-BORDER SETTLEMENT CONDUCTED FOR OTHER TRANSACTIONS
401	Remittance of profits
402	Income and current transfers
403	Bonus
404	Dividend payment
405	Tax payment and scholarships
406	Cross-border settlement conducted for Donation to charities (non-profit organizations (ngos))

4.14 REASON CODES FOR RETURNS

CODE	TYPE	REASON
AC01	Account Number	Format of the account number specified is not correct
AC02	Account Number	Format of the account number specified is non-numeric
AC03	Account Number	Format of the account number specified is not valid for local sort/national clearing code
AC04	Account Number	Account number specified has been closed on the receiver's books
AC05	Account Number	Account number specified is not a valid account at the Account with Institution
AC06	Account Number	Account specified is blocked, prohibiting posting of transactions against it
AM01	Amount	Specified transaction/message amount is equal to zero
AM02	Amount	Specified transaction/message amount is greater than allowed maximum
AM03	Amount	Specified transaction/message amount is in a non-processable currency outside of existing agreement
AM04	Amount	Amount of funds available to cover specified transaction/message amount is insufficient
AM05	Amount	This transaction/message appears to have been duplicated
AM06	Amount	Specified transaction amount is less than agreed minimum
AM07	Amount	Amount specified in transaction/message has been blocked by regulatory authorities
BE01	Beneficiary	Specification of beneficiary is not consistent with associated account number
BE02	Beneficiary	Beneficiary specified is not known at associated sort/national clearing code
BE03	Beneficiary	Beneficiary specified no longer exists in the books
BE04	Beneficiary	Specification of beneficiary address, which is required for payment, is missing/not correct
AG01	Agreement	No agreement is on file at the receiver for affecting associated transaction/message
AG02	Agreement	Bank Operation code specified in the transaction/message is not valid for receiver
DT01	Date	Invalid date (for example, wrong settlement date, holiday or future value date is more than allowed maximum date)
MS01	General	Reason has not been specified due to sensitivities
PY01	Party	Unknown Account-With Institution

CODE	TYPE	REASON
RF01	Reference	Transaction reference is not unique within the message
RC01	Routing Code	Routing code specified in the transaction/message has an incorrect format
RC02	Routing Code	Routing code specified in the transaction/message is not numeric
RC03	Routing Code	Routing code specified in the transaction/message is not valid for local clearing
RC04	Routing Code	Routing code specified in the transaction/message refers to a closed branch
TM01	Receipt Time	Associated transaction/message was received after agreed processing cut-off time
X001	Bilateral	Sender is not allowed to send messages of current format for current business day period
X002	Bilateral	Sender is not allowed to debit debited account
X003	Bilateral	Wrong priority value
X004	Bilateral	Credit account cannot be equal to debit account
X005	Bilateral	Sender has no rights to send message of this type
X006	Bilateral	BIC is invalid
X007	Bilateral	Transaction type code is not allowed for participant
X008	Bilateral	Other access rights restrictions

4.15 ERROR MESSAGES – TYPES TO ERROR CASES LINKS

MT TYPE	MX TYPE	ERROR CASE
MTn96	admi.002	Format error, access rights error
MTn96	camt.025	System can't create incoming document or transaction
MTn96	pacs.002	Error after creation of transaction
MTn96	camt.029	In a case of unsuccessful validation of change priority request or cancellation request
MT296/FXSD	fxtr.017/INVA	Business validation of foreign exchange trade instruction was failed

5 USE CASES SCHEMES NOTATION DESCRIPTION

The following legend will be used to describe all of the business process use cases.

Use Cases Scheme Legend

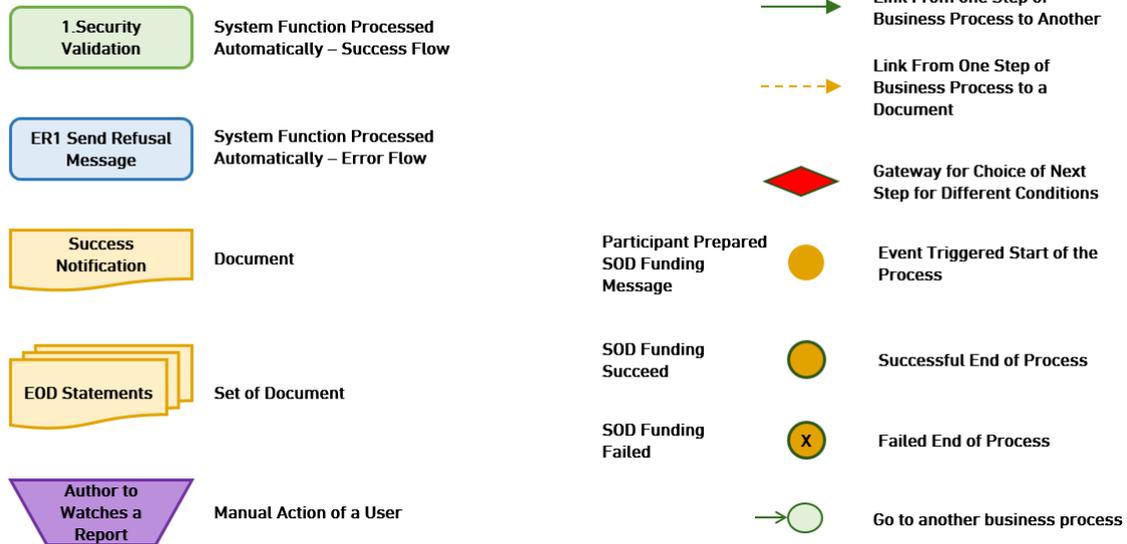


Figure 4: Use Cases Scheme Notation Description

6 BUSINESS PROCESS USE CASES

6.1 PAYMENT PROCESSING USE CASES

6.1.1 Use Case PM-01: General Payment Processing

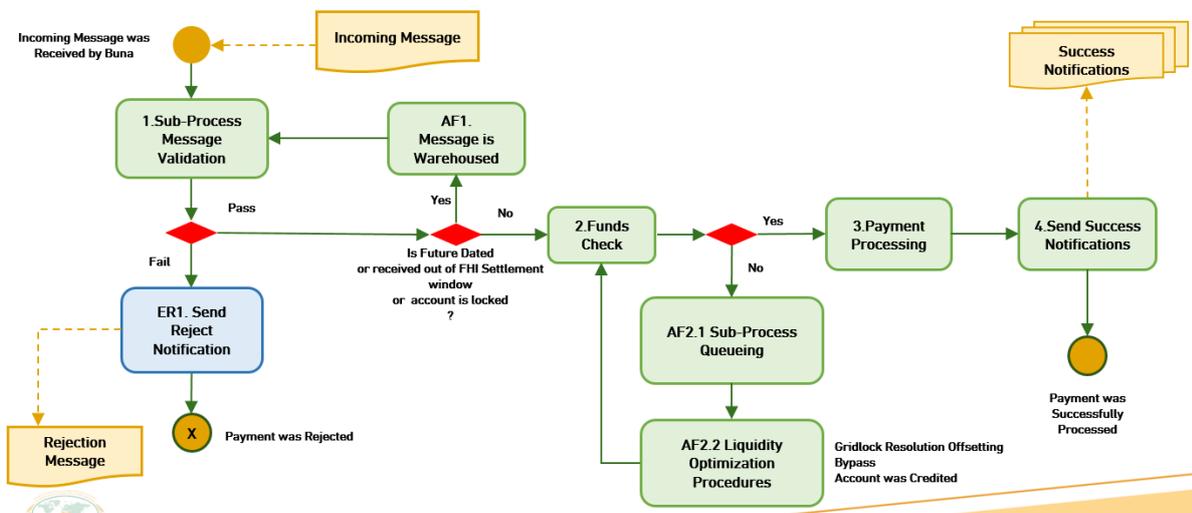


Figure 5: General Payment Processing

Use Case ID	PM-01
Use Case Name	General Payment Processing
Use Case Description	An abstract use case to describe the general payment processing flow. In the main use cases, this flow will be specialized
End Objective	Incoming message is processed
Primary Actors	Buna Participants (Central Banks can also act as a Buna Participant when sending their payments)
Trigger Event	<ol style="list-style-type: none"> 1. A sending participant in Arab region country 1 send a payment instruction to Buna for a receiving participant in Arab region country 2 (to make a payment in one of the selected currencies). Buna receives the incoming payment message 2. Value date of the future dated payment has been received (Wave 2 functionality)
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ The solution will process all payments in real-time, except for single payments or batch file payments that are specified for a future value-date ▪ The solution will support payments being conducted only in 'single circuits', i.e., both the sending and receiving leg of a cross-border payment will be in the same currency held by the same FHI. The solution will NOT conduct / provide foreign exchange services and payments in the same currency, but debiting is linked to different FHIs. This will be conducted outside of the system 	
Includes	
Use Cases:	
<ul style="list-style-type: none"> ▪ Message validation ▪ Queueing ▪ Gridlock Resolution 	
Pre-Conditions	
Business day period allows for the current type of payment for the appropriate currency and FHI	
Post Conditions	
Transaction can be processed, queued or warehoused for a future date	
Basic Flow	
1	<p>Execute Use Case: Message Validation</p> <p>Passed and value date = today and received during FHI settlement window– proceed to 2</p>

	<p>Passed and value date is in future/received outside of FHI settlement window/ account is locked– proceed to AF1</p> <p>Failed – proceed to ER1</p>
2	Funding check. Passed – proceed to 3. Failed – proceed to AF2.1
3	<p>Payment processing</p> <ul style="list-style-type: none"> ▪ Debit: account of Debiting participant ▪ Credit: Settlement account of Crediting participant(s)
4	Buna sends status message (MT196/ACSC on MT103, MT296 on MT202, pacs.002 on MX payments) to Debiting Participant
5	Buna sends copy of payment to Crediting Participant(s)
Alternate Flows	
AF1	Transaction is Future Dated
1	Payment is warehoused until the value date
2	Payment Status Notification is sent to the Debiting Participant (MT196 on MT103, MT296 on MT202 == pacs.002)
3	When value date will occur – proceed to step 1 (validation) of Basic flow
AF2	Debit account has insufficient funds
1	Queue transaction. Execute Use Case: Queueing
2	Payment Status Notification is sent to Debiting Participant (MT196 on MT103, MT296 on MT202 == pacs.002)
3	<p>Execute liquidity optimization procedures</p> <p>If gridlock was detected go to step 4</p> <p>If succeed Proceed to step 3 of Basic flow</p>
4	<p>Execute Use Case: Gridlock Resolution</p> <p>If succeed Proceed to step 3 of Basic flow</p>
Exceptions	
ER1	Transaction didn't pass validation
1	Buna sends reject or error notification to the Debiting Participant (MTn96/RJCT == admi.002) or MTn96/ERRC == camt.025)

6.1.2 Use Case PM-02: Payment message validation

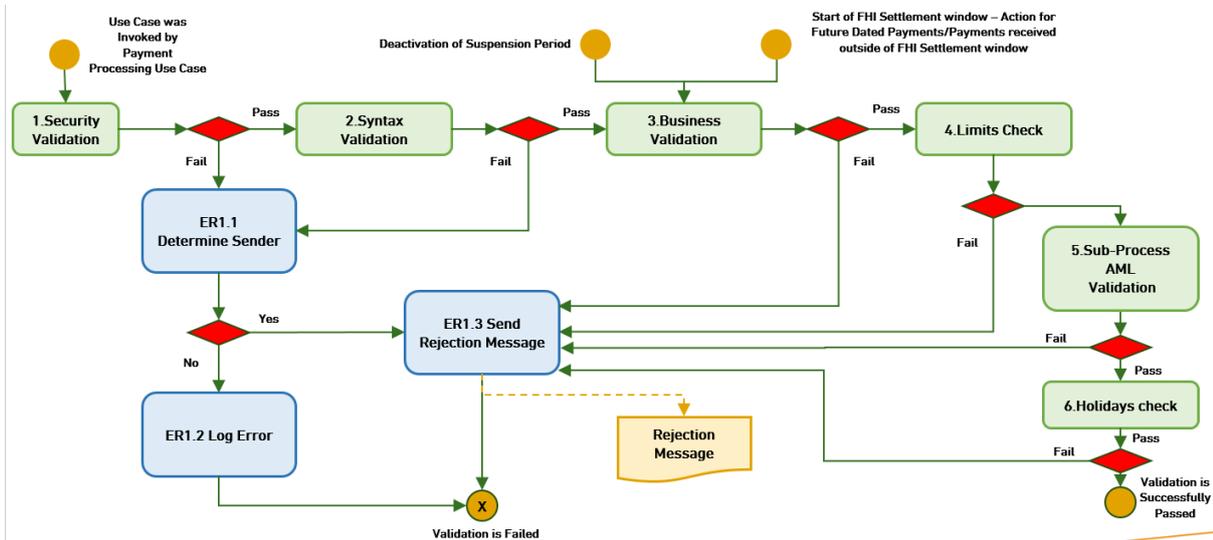


Figure 6: Payment message validation

Use Case ID	PM-02
Use Case Name	Payment Message validation
Use Case Description	General validation process for all incoming payment messages. Validation rules could be extended in other use cases for specific scenarios
End Objective	Incoming message is validated
Primary Actors	Validation is a sub process. It is invoked by primary use cases
Trigger Event	Incoming payment message
Use Case Business Rules	
Security Validation:	
1. Incoming message signature is valid for the sender	
Structural (Syntax) Validation:	
1. Incoming message conforms to the XSD scheme	
Business Validation:	
1. Message type is allowed in the current window.	

2. Future value date falls on a business day and does not exceed the maximum allowed number of days (at Wave 1 Future dated payments are not allowed and have to be rejected).
3. Sender is in state "Active".
4. Incoming messages are not blocked for the sender.
5. Access Rights: The following rules must be met:
 - a. The sender has permission for the message type for the current business day window
 - b. The sender has permission to act on behalf of the originator.
6. Currency of the payment is in a list of selected currencies.
7. Holidays check. Payments with value day = holiday (system or currency or country) are rejected.
8. Payment sender has one registered inside Buna core participant with the same 8 first symbols of BIC.

Limits check:

1. Check if transaction execution will not lead to exceeding the limit threshold:
 - Per transaction
 - Per fhi currency (daily)
 - Per account

AML:

1. AML check (via integration with en.filtering solution)

Holidays check:

1. Value date of the payment is not a holiday for the system/currency/country

Pre-Conditions

Incoming message received from either the Swift network or VPN

Post Conditions

Incoming message is successfully validated or rejected

Basic Flow

1	Security Validation: Check signature against the sender of the message. On failure execute ER1.1
2	Syntax Validation: Perform XSD validation of the incoming message. On failure execute ER1.1
3	Business validation: Check all business rules. In the case of failure execute ER1.3
4	Limits check: check limits thresholds. On failure execute ER1.3
5	AML Validation: Described in 6.1.3 Use Case PM-03: AML Check

	On failure execute ER1.3
6	Holidays check: check holidays. On failure execute ER1.3
Alternate Flows	
	N/A
Exceptions	
ER1.1	Try to determine the sender. If the sender of the message can be determined, then execute ER1.3. else execute ER1.2
ER1.2	Log error
ER1.3	Send reject notification to the sender of the incoming message. Transaction status becomes "Rejected"

6.1.3 Use Case PM-03: AML Check

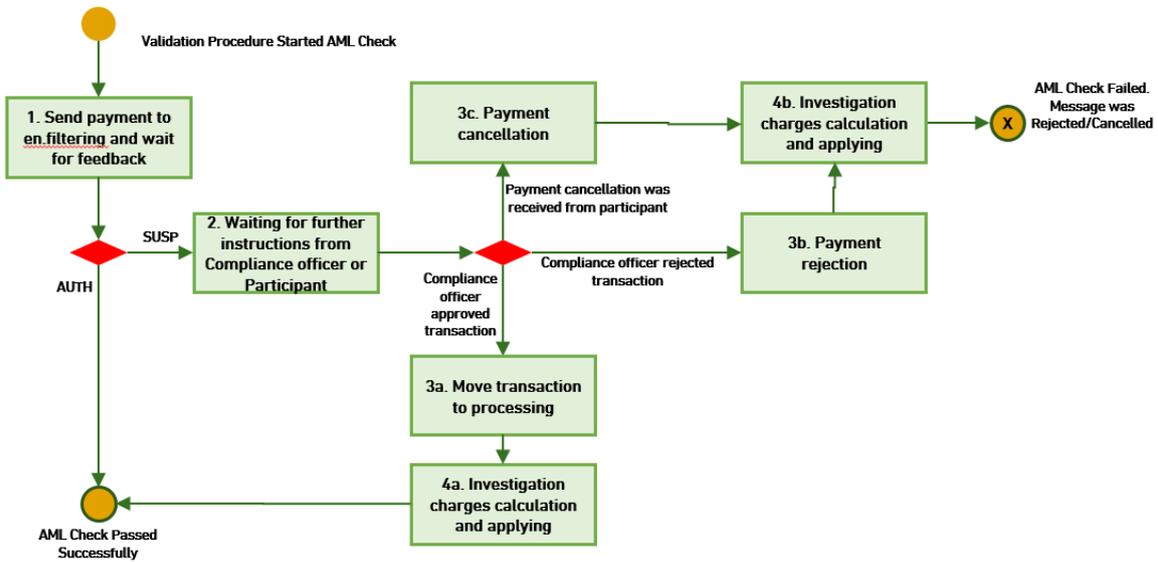


Figure 7: AML Check

Use Case ID	PM-03
Use Case Name	AML Check
Use Case Description	AML Check processing
Primary Actors	Buna
Trigger Event	Automatically after Limits check
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Result of AML check was rendered to Validation process	
Basic Flow	
1	Buna core sends pacs.008 payment to AML module and waits for the feedback If pacs.002/AUTH was received – return successful AML check result to Validation process If pacs.002/SUSP was received – go to 2
2	Waiting for further instructions (what will happen first). If compliance officer approves transaction – go to 3a
3a	Buna moves the transaction for processing. Go to 4.
3b	Buna rejects the transaction. Go to 4.
3c	Buna cancels the transaction. Go to 4.
4	Buna calculates and applies Investigation charges based on the fact of Investigation (happened or not) and the case after suspension.

6.1.4 Use Case PM-04: Queuing

Use Case ID	PM-04
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Use Case Name	Queueing
Use Case Description	Describes the process of queueing a payment.
Primary Actors	Buna
Trigger Event	Debtor has not enough funds in Buna to ensure payment processing. Invoked by Use Case PM-01
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Payments are queued	
Basic Flow	
1	Payment is held in a lack of liquidity queue

6.1.5 Use case PM-05: Resolve Queue

Use Case ID	PM-05
Use Case Name	Resolve Queue
Use Case Description	Describes the process of changes in queue processing
Primary Actors	Buna
Trigger Event	<ol style="list-style-type: none"> 1. Debtor's account was credited 2. Payment in a queue was cancelled 3. Payment in a queue changed priority
Use Case Business Rules	
N/A	
Pre-Conditions	
Payments are queued	
Post Conditions	

Changes in a queue	
Basic Flow	
1	Payments were settled
2	Notification about the payment settlement is sent to the Buna Participant (MTn96 == pacs.002)
Alternate Flows	
AF1	Changes in a queue without settlement

6.1.6 Use Case PM-06: Interbank Transfer

Use Case ID	PM-06
Use Case Name	Interbank Transfer
Use Case Description	Execute payment processing on the Buna Participant's accounts for interbank transfers
Primary Actors (Sender)	Buna Participants
Trigger Event	Interbank Transfer message (MT 202 == pacs.009)
Use Case Business Rules	
N/A	
Extends	
<abstract> UC-001: General Payment processing	
Pre-Conditions	
N/A	
Post Conditions	
Transfer is either processed, queued or rejected	
Basic Flow	
	Similar to the basic flow in General Payment processing
Alternate Flows	
	Similar to the alternative flows in General Payment processing

Exceptions	
	Similar to the exceptions in General Payment processing

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT202	pacs.009	Interbank transfer

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT202	pacs.009	Copy of payment (Interbank transfer)
Buna Participants (CEBs acting as BPs also)	MT296	camt.025	Processing error
Buna Participants (CEBs acting as BPs also)	MT296	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	admi.002	Message rejection

6.1.7 Use Case PM-07: Customer credit Transfer

Use Case ID	PM-07
Use Case Name	Customer credit Transfer
Use Case Description	Execute payment processing on the Buna Participant's accounts for customer transfers.
Primary Actors (Sender)	Buna Participants
Trigger Event	Customer credit Transfer message (MT 103 == pacs.008).
Use Case Business Rules	
N/A	
Extends	

<abstract> UC-001: General Payment processing	
Pre-Conditions	
N/A	
Post Conditions	
Transfer is either processed, queued or rejected	
Basic Flow	
	Similar to the basic flow in General Payment processing
Alternate Flows	
	Similar to the alternate flows in General Payment processing
Exceptions	
	Similar to the exceptions in General Payment processing

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT103	pacs.008	Single Customer Credit Transfer

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT103	pacs.008	Copy of payment (Single Customer Credit Transfer)
Buna Participants (CEBs acting as BPs also)	MT196	camt.025	Processing error
Buna Participants (CEBs acting as BPs also)	MT196	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT196	admi.002	Message rejection

6.1.8 Use Case PM-09: Return Payment

Use Case ID	PM-09
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Use Case Name	Return Payment
Use Case Description	Return Payment
Primary Actors (Sender)	Buna Participants
Trigger Event	Return Payment (MT202 == pacs.004)
Use Case Business Rules	
Return Payments could not be queued	
Extends	
<abstract> UC-001: General Payment processing	
Pre-Conditions	
N/A	
Post Conditions	
Payment is either processed or rejected	
Basic Flow	
	Similar to the basic flow in General Payment processing
Alternate Flows	
	Similar to the alternate flows in General Payment processing
Exceptions	
	Similar to the exceptions in General Payment processing

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT202	pacs.004	Return transfer

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
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Buna Participants (CEBs acting as BPs also)	MT202	pacs.004	Copy of payment (Return Payment)
Buna Participants (CEBs acting as BPs also)	MT296	camt.025	Processing error
Buna Participants (CEBs acting as BPs also)	MT296	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	admi.002	Message rejection

6.1.9 Use Case PM-10: Gridlock Resolution

Use Case ID	PM-11
Use Case Name	Gridlock Resolution
Use Case Description	Execute gridlock resolution to process queued payments
Primary Actors	Buna
Trigger Event	Manual trigger by the Operator or automatically detected Gridlock by the System
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Payments are settled (all or part of the queued) or still queued	
Basic Flow	
1	The system detects a gridlock situation and selects those payments that can be settled on a Net basis whilst preserving the normal business conditions attached to the transactions. The gridlock resolution can be scheduled to run automatically at both the start-of-day and end-of-day, but needs to be triggered manually if required during the operating window

6.2 QUEUE MANAGEMENT USE CASES

6.2.1 Use Case QUE-01: Cancellation of Credit Transfer by participant

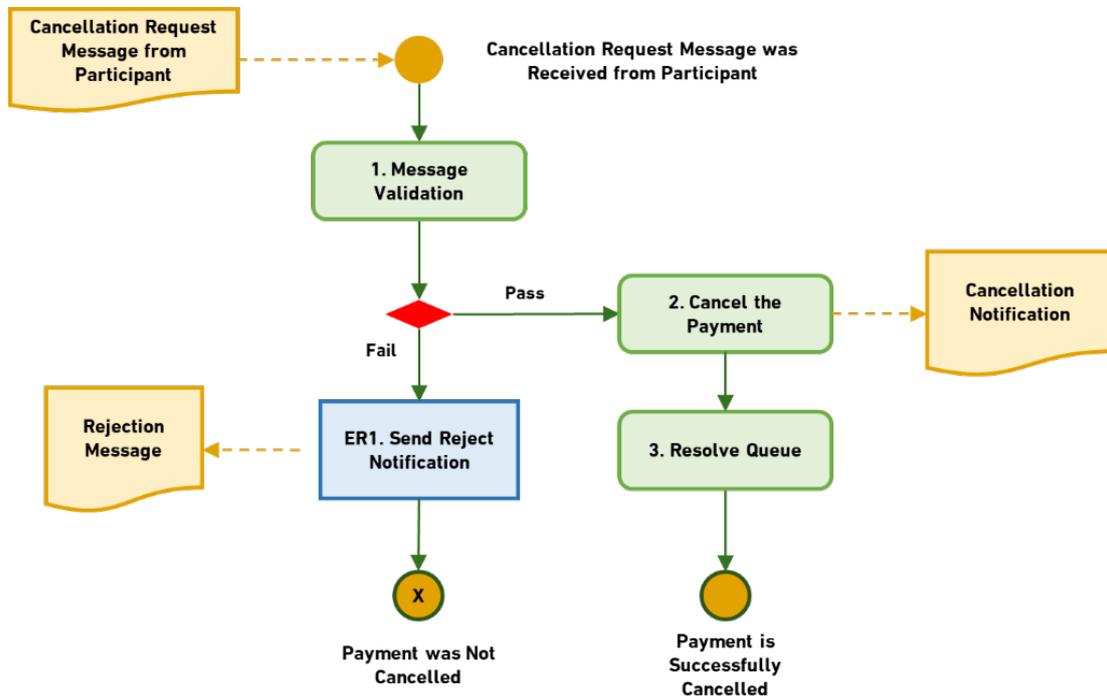


Figure 8: Cancellation of Credit Transfer by participant

Use Case ID	QUE-01
Use Case Name	Cancellation of a queued payment by a participant
Use Case Description	Cancel queued payments initiated by a participant
Primary Actors (Sender)	Buna Participant, Buna
Trigger Event	A cancellation request message is received from a Buna Participant (MTn92 or camt.056) or Participant requested cancellation via Buna Portal GUI
Use Case Business Rules	
The sender of the cancellation request must be the sender of the original payment	
Pre-Conditions	
The original payment has not been settled, i.e. it is in the state “queued”	
Post Conditions	
Original Transaction is cancelled	
Basic Flow	
1	Execute use case UC029: Non-payment message validation. Additional business validation for the cancellation request: <ol style="list-style-type: none"> 1. The sender of the cancellation request must be the sender of the payment to be cancelled 2. The payment is in the queue If the validation fails, then go to ER1
2	The status of the original payment is set to “cancelled”. A cancellation confirmation MTn96/CNCL == camt.029) is generated to Sender of the request (Buna Participant)
3	Execute UC004a: Resolve queue
Alternate Flows	
	N/A
Exceptions	
	ER: Original Transaction has already been settled

ER1	Buna sends a rejection message to the Sender of the request (Buna Participant) (MTn96/RJCR == camt.029 or MTn96/RJCT == admi.002)
------------	---

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT192	camt.056	Request for cancellation
Buna Participants (CEBs acting as BPs also)	MT292	camt.056	Request for cancellation

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196	camt.029	Reply on cancellation or change priority request
Buna Participants (CEBs acting as BPs also)	MT296	camt.029	Reply on cancellation or change priority request
Buna Participants (CEBs acting as BPs also)	MT196	admi.002	Message rejection
Buna Participants (CEBs acting as BPs also)	MT296	admi.002	Message rejection

6.2.2 Use Case QUE-02: Change priority of unsettled payment by participant

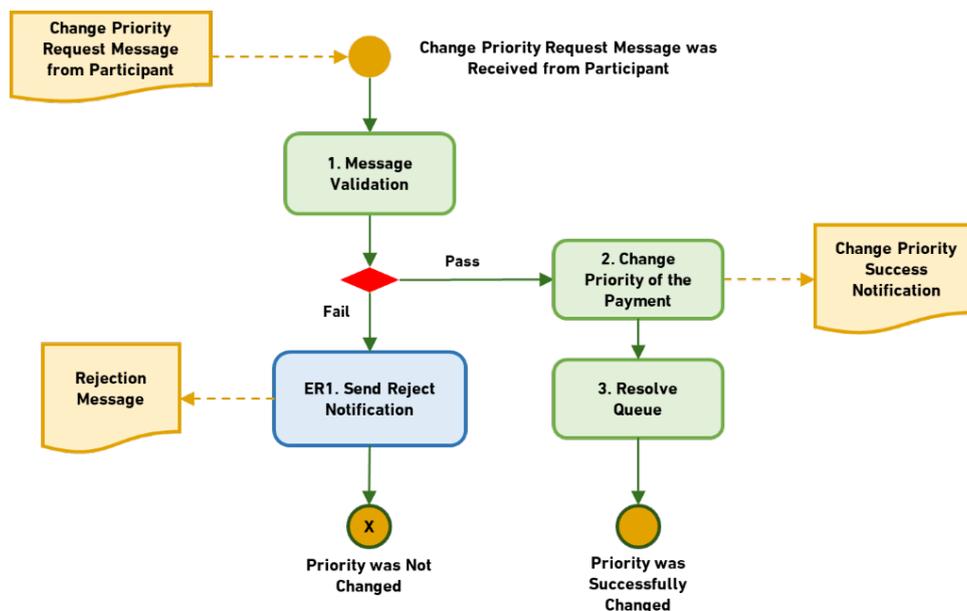


Figure 9: Change priority of unsettled payment by participant

Use Case ID	QUE-02
Use Case Name	Change priority of unsettled payment by a participant
Use Case Description	Change priority of unsettled payments initiated by a participant
Primary Actors (Sender)	Buna Participant, Buna
Trigger Event	A change priority message is received from Buna Participant (MTn95/PRTY == camt.087) or Participant requested priority change via Buna Portal GUI
Use Case Business Rules	
The sender of the change priority request must be the sender of the original payment	
Pre-Conditions	
Original payment has not been settled, i.e. it is in the “queued” state	
Post Conditions	
Priority of payment was changed	
Basic Flow	
1	Execute use case UC029: Non-payment message validation. Additional business validation for change priority requests: <ol style="list-style-type: none"> 1. The sender of a change priority request must be the sender of the payment 2. The payment is in a queue If validation the fails, then go to ER1
2	Buna changes the priority of payment. A request confirmation for the Sender of the request (Buna Participant) is generated (MTn96/PRTY == camt.029)
3	Execute UC004a: Resolve queue
Alternate Flows	
	N/A
Exceptions	
	ER: Original Transaction has already been settled
ER1	Buna sends a reject message to the Sender of the request (Buna Participant) (MTn96/RJCT == admi.002/camt.029/Error)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT195	camt.087	Request to change priority
Buna Participants (CEBs acting as BPs also)	MT295	camt.087	Request to change priority

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196	camt.029	Reply on cancellation or change priority request
Buna Participants (CEBs acting as BPs also)	MT296	camt.029	Reply on cancellation or change priority request
Buna Participants (CEBs acting as BPs also)	MT196	admi.002	Message rejection
Buna Participants (CEBs acting as BPs also)	MT296	admi.002	Message rejection

6.2.3 Use Case QUE-03: Cancellation of queued payment by operator

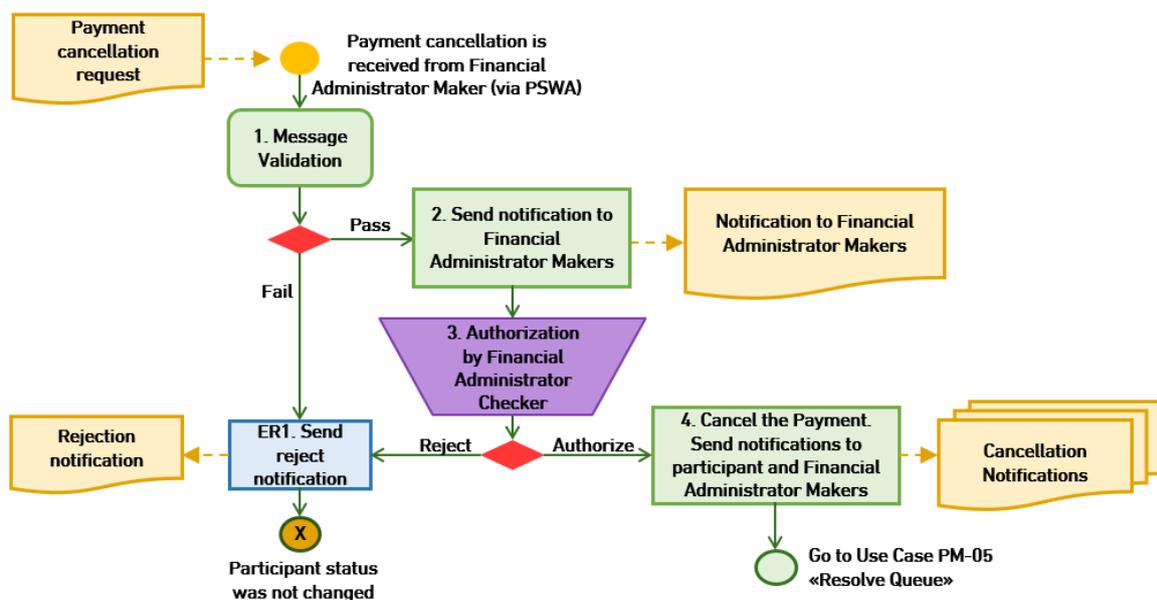


Figure 10: Cancellation of queued payment by operator

Use Case ID	QUE-03
Use Case Name	Cancellation of a queued payment by an operator
Use Case Description	Cancel queued payments initiated by Buna Financial Administrators
Primary Actors (Sender)	Buna Financial Administrators
Trigger Event	Buna Financial Administrator Maker cancels a transaction using the PSWA GUI
Use Case Business Rules	
Buna Financial Administator Checker has to approve the request	
Pre-Conditions	
The original payment has not been processed, i.e. it is in the state “queued”	
Post Conditions	
Transaction is cancelled	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. If the validation fails, then go to ER1
2	Buna system sends confirmation in non-final state to Buna Financial Administrator Maker (camt.029)
3	Buna Financial Administrator Checker approves Maker’s request. In case of rejection go to ER1.
4	Notification about the payment cancellation is sent as a payment status message to the Buna Participant (MTn96/RJCT == pacs.002) The Buna Financial Administrator Makerreceives a request confirmation notification (camt.029) Go to Use case PM-05: Resolve Queue
Alternate Flows	
	N/A
Exceptions	

	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (Buna Financial AdministratorMakers) (camt.029)

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	pacs.002	Status of transfer
Buna Financial Administrator Makers	-	camt.029/CNCL	Cancellation request confirmation
Buna Financial Administrator Makers	-	camt.029/RJCR	Cancellation request rejection

6.2.4 Use Case QUE-04: Change priority of unsettled payment by operator

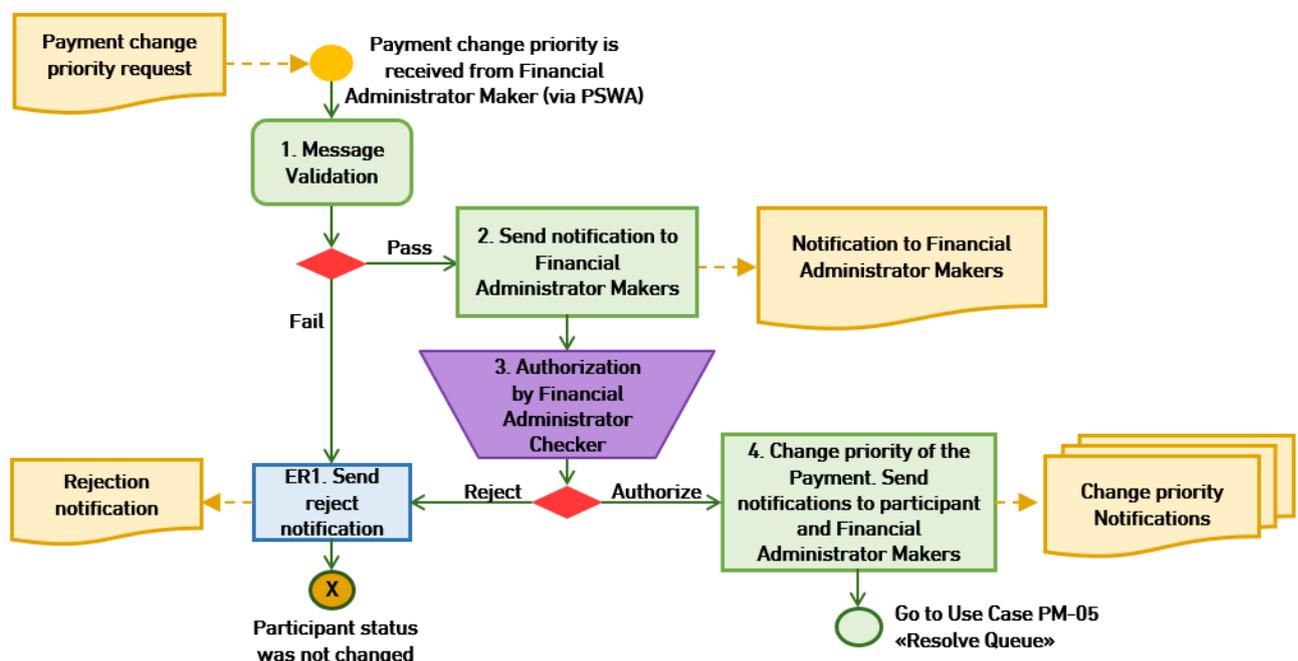


Figure 11: Change priority of unsettled payment by operator

Use Case ID	QUE-04
Use Case Name	Change the priority of a queued payment by an operator

Use Case Description	Change the priority of a queued payment by the Buna Financial Administrators
Primary Actors (Sender)	Buna Financial Administrators
Trigger Event	An operator changes the priority of the transaction using the PSWA GUI.
Use Case Business Rules	
Buna Financial Administrator Checker has to approve the request	
Pre-Conditions	
The original payment has not been processed, i.e. it is in the “queued” state	
Post Conditions	
The original Transaction is reordered or re-prioritized	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. If the validation fails, then go to ER1
2	Buna system sends confirmation in non-final state to Buna Financial Administrator Maker (camt.029)
3	Buna Financial Administrator Checker approves Maker’s request. In case of rejection go to ER1.
4	The Participant receives a notification on changing priority (MTn96 ==camt.029). The Buna Financial Administrator Maker receives a request confirmation notification (camt.029) Go to Use case PM-05: Resolve Queue
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (Buna Financial AdministratorMakers) (camt.029)

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also), Buna Financial Administrator Makers	MT196	camt.029	Notification on priority changing
Buna Participants (CEBs acting as BPs also), Buna Financial Administrator Makers	MT296	camt.029	Notification on priority changing

6.2.5 Use Case QUE-05: Manage Payments at EOD

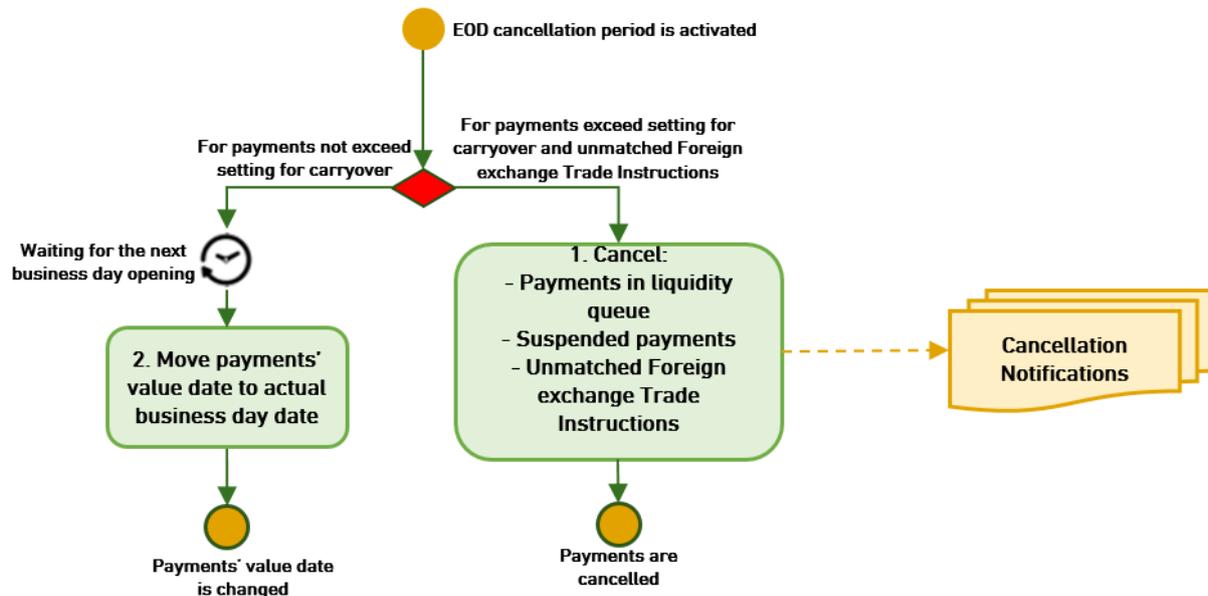


Figure 12: Manage Payments at EOD

Use Case ID	QUE-05
Use Case Name	Manage Payments at EOD
Use Case Description	Cancellation and moving payments to the next business day dates
Primary Actors (Sender)	BUNA
Trigger Event	EOD Window Activated in the BUNA
Use Case Business Rules	
<p>Buna will follow the algorithm:</p> <ul style="list-style-type: none"> ▪ Find all transactions in Queued and Suspended (Inactive) statuses. ▪ Calculate Current day – Value date of the payment in original Payment document = N. ▪ For transactions with $N \geq$ Setting «Number of calendar days for value date carryover» automatic cancellation will be proceeded. ▪ For all unmatched Foreign Exchange Trade Instructions automatic cancellation will be proceeded. 	

<ul style="list-style-type: none"> For the remaining transactions value date will be changed in database to the next calendar day when next business day will be effective. <p>For non-authorized documents (which are not transactions yet) setting «Number of calendar days for authorization waiting» will be used with value (-1), so documents will never be automatically rejected (can be changed anytime).</p>	
Pre-Conditions	
System is in the EOD cancellation period	
Post Conditions	
Original Transaction is cancelled or moved to the next business day date	
Basic Flow	
1	<p>BUNA rejects queued (because of a lack of liquidity) and suspended payments, which exceed «Number of calendar days for value date carryover» and unmatched Foreign Exchange Trade Instructions.</p> <p>Status of payments are set to “X” (Cancelled). Cancellation notifications are sent:</p> <ul style="list-style-type: none"> For the senders of each cancelled Interbank transfer/Customer Credit transfer/Return payment (MTn96/RJCT == pacs.002) For FX Trade Instructions to Participant A and Participant B/Foreign Exchange provider (MT296/RSCD == fxtr.017)
2	On the new business day activation Queued and Suspended Payments will be moved to actual business day date.
Alternate Flows	
	N/A
Exceptions	
	N/A

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	pacs.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	fxtr.017	Cancellation status message

6.3 LIQUIDITY MANAGEMENT USE CASES

6.3.1 Use Case LIQ-01 - SOD Funding for BPA

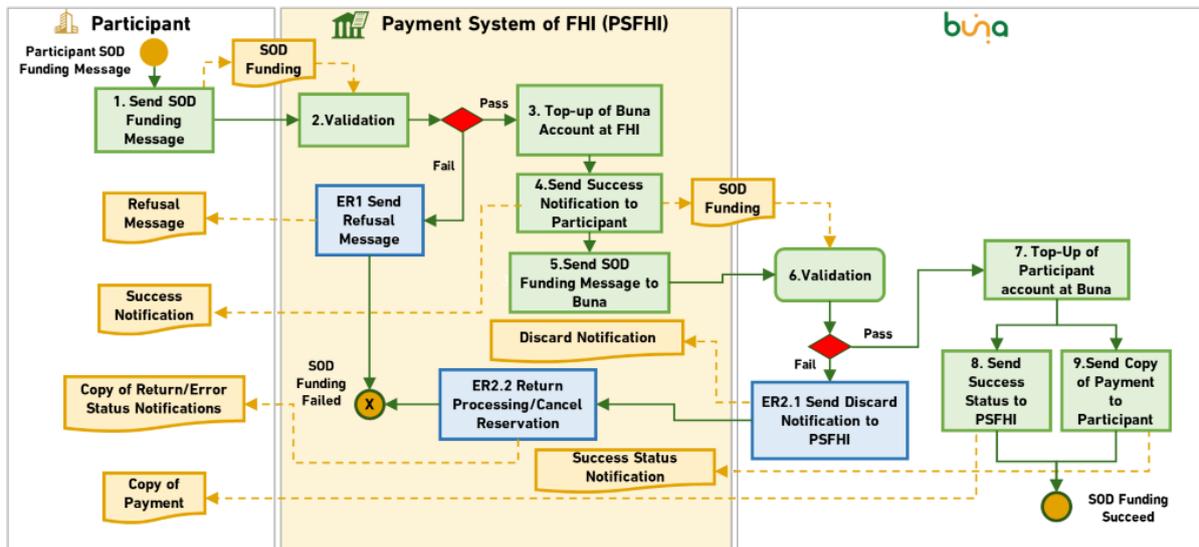


Figure 13: SOD Funding for BPA

Use Case ID	LIQ-01
Use Case Name	SOD Funding for BPA.
Use Case Description	Transfer of funds by a participant to its settlement account held in Buna at the start of the day for the case when a participant has an account in the FHI Payment system
Primary Actors	Buna Participant, FHI Payment system, Buna
Trigger Event	Participant initiates the transaction in the FHI Payment system
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ Buna will work in tandem with all the FHI Payment systems in each of the participating Arab countries. Buna will maintain a single account at the FHI of issue of each of the participating Arab currencies. As to the global currencies (USD, EUR, etc.), more than one FHI can be registered as FHI for each global currency. As such, Buna will use the FHI Payment system for funding and de-funding of participant accounts in Buna ▪ Participants will pre-fund the applicable single Buna account at the FHI of issuance per currency through the FHI Payment system ▪ Buna might set up a minimum level of SOD funding for all the participants ▪ Funding message can contain BIC of the Non-registered participant 8*** as an Instructed Agent, in this case registered inside the Buna core Participant with the same 8 first digits will be credited. 	

Uses	
N/A	
Pre-Conditions	
The start of day window is triggered	
Post Conditions	
Funds are transferred from the FHI Payment system to Buna and the accounts are updated	
Basic Flow	
1	The Participant sends a transfer to the FHI Payment system.
2	FHI Payment system validates the transfer. In a case of error proceed to ER1.1
3	The FHI Payment system processes the top-up of Buna account: <ul style="list-style-type: none"> ▪ Debits settlement account of the participant ▪ Credits account of Buna system
4	The FHI Payment system sends a success notification to the Participant
5	The FHI Payment system sends a transfer to Buna (MT202 == pacs.009)
6	Buna validates the transfer. In the case of an error proceed to ER2.1
7	Buna <ul style="list-style-type: none"> ▪ Debits the technical account of the appropriate currency linked to the FHI ▪ Credits the Participant's Settlement Account linked to the FHI
8	Buna sends a Success status Notification MT296 == pacs.002 to the FHI Payment system
9	Buna sends a copy of the payment to the Participant (MT202 == pacs.009)
Alternate Flows	
	N/A
Exceptions	
	E1: Error in FHI Payment system
ER1.1	The FHI Payment system sends a Refusal message to the Buna Participant

	E2. Error in Buna
ER2.1	Buna sends a Discard Notification to the FHI Payment system(MTn96/RJCT == pacs.002/admi.002)
ER2.2	The FHI Payment system processes the Return Payment /Cancels the reservation and sends a notification to the participant

Incoming messages

SENDER	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	Funding, top-up

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pacs.009	Copy of payment (Funding, top-up)
FHIs	MT296	camt.025	Processing notification
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection

6.3.2 Use Case LIQ-02 - SOD Funding for BPUCRSB

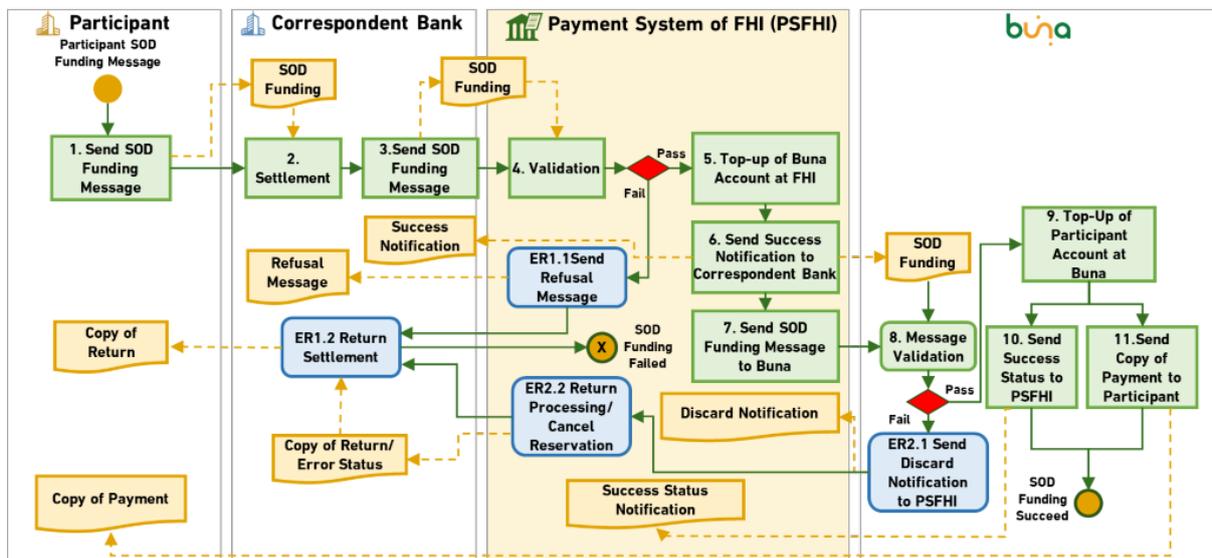


Figure 14: SOD Funding for BPUCRSB

Use Case ID	LIQ-02
Use Case Name	SOD Funding for BPUCRSB

Use Case Description	Transfer of funds by a Participant to its Settlement account held in Buna at the start of the day for the case when a participant has NO account in the FHI Payment system
Primary Actors	Buna Participant, Correspondent Bank, FHI Payment system, Buna
Trigger Event	The Participant initiates the transaction via its correspondent bank
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ If a participant wants to top-up its account in a currency but it has no account in the FHI Payment system for this currency, the participant should use a correspondent bank ▪ Buna might set up a minimum level of SOD funding for participants ▪ Funding message can contain BIC of the Non-registered participant 8*** as an Instructed Agent, in this case registered inside the Buna core Participant with the same 8 first digits will be credited. 	
Uses	
N/A	
Pre-Conditions	
The start of day window is triggered	
Post Conditions	
Funds are transferred from the Participant to Buna and accounts are updated	
Basic Flow	
1	The Participant sends the SOD Funding message to a correspondent bank
2	The Correspondent bank settles the transfer (according to its operating rules) in its Core Banking system.
3	The Correspondent bank sends a SOD Funding message to the FHI Payment system
4	The FHI Payment system validates the message In the case of an error proceed to ER1.1
5	The FHI Payment system processes the top-up of Buna account: <ul style="list-style-type: none"> ▪ Debits settlement account of the correspondent bank ▪ Credits account of Buna system
6	The FHI Payment system sends a success notification to the correspondent bank
7	The FHI Payment system sends a SOD Funding message to Buna (MT202 == pacs.009).

8	Buna validates the transfer. In a case of error proceed to ER2
9	Buna debits the technical account of the appropriate currency linked to the FHI and credits the participant's Settlement Account linked to the FHI
10	Buna sends a Success status Notification MT296/ACSC == pacs.002 to the FHI Payment system
11	Buna sends a copy of the payment to the Participant (MT202 == pacs.009).
Alternate Flows	
	N/A
Exceptions	
	E1: Error in FHI Payment system
1	The FHI Payment system sends a Refusal message to the Correspondent bank
2	The Correspondent bank creates and settles the return
3	The Correspondent bank sends a copy of the return to the Participant
	E2. Error in Buna
1	Buna sends a Discard Notification to the FHI Payment system(MTn96/RJCT == pacs.002/admi.002)
2	The FHI Payment system processes the Return Payment /Cancels the reservation and sends a notification to the Correspondent bank
3	The Correspondent bank creates and settles the return
4	The Correspondent bank sends a copy of the return to the Participant

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	Funding, top-up

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pacs.009	Copy of payment (Funding, top-up)
FHIs	MT296	camt.025	Processing notification
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection

6.3.3 Use Case LIQ-03 - Intra-day top-up for BPA

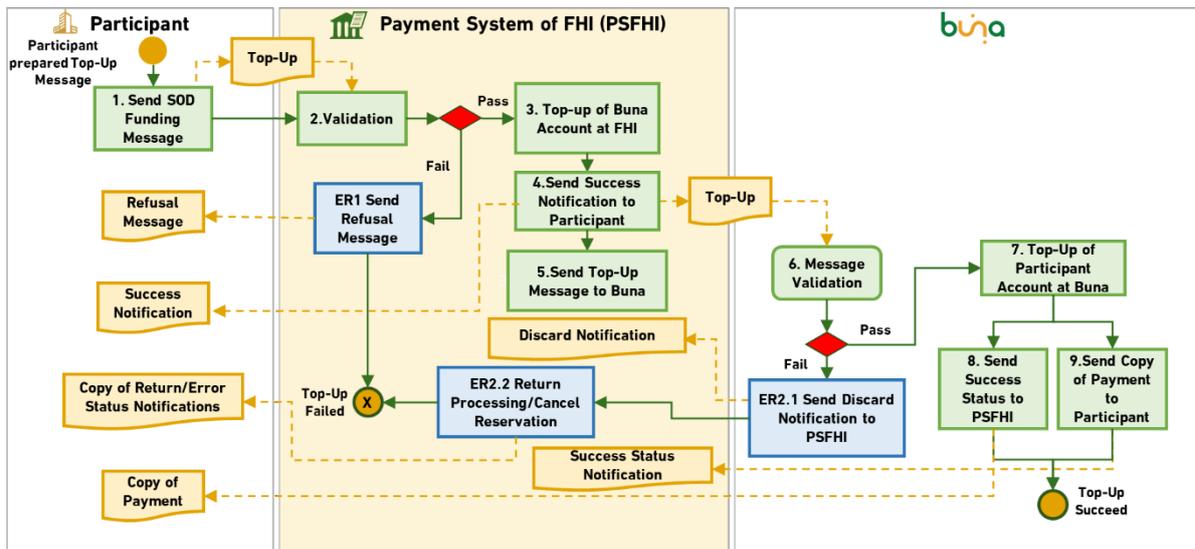


Figure 15: Intra-day top-up for BPA

Use Case ID	LIQ-03
Use Case Name	Intra-day top-up for BPA.
Use Case Description	Transfer of funds by a participant to its Settlement account held in Buna during the day for the case when a participant has an account in the FHI Payment system
Primary Actors	Buna Participant, FHI Payment system, Buna
Trigger Event	Participant in the FHI Payment system initiates the transaction
Use Case Business Rules	
Participant could top-up its account during the day if needed	
Uses	
N/A	
Pre-Conditions	
The Start of Day window is triggered	
Post Conditions	
Funds are transferred from the FHI Payment system to Buna, and the accounts are updated	

Basic Flow	
1	The Participant sends a top-up message to the FHI Payment system
2	The FHI Payment system validates the transfer. In the case of an error proceed to ER1
3	The FHI Payment system processes the top-up of Buna account: <ul style="list-style-type: none"> ▪ Debits Settlement Account of the participant ▪ Credits Account of Buna system
4	The FHI Payment system sends a success notification to the Participant
5	The FHI Payment system sends a transfer to Buna (MT202 == pacs.009)
6	Buna validates the transfer. In a case of error, proceed to ER2
7	Buna Debits the technical account in the appropriate currency linked to the FHI and credits the FHI Participant's Settlement Account
8	Buna sends a Success status Notification MT296/ACSC == pacs.002 to FHI the FHI Payment system
9	Buna sends a copy of the payment to the Participant (MT202 == pacs.009)
Alternate Flows	
	N/A
Exceptions	
	E1: Error in FHI Payment system
1	The FHI Payment system sends a Refusal message to the Buna Participant.
	E2. Error in Buna
1	Buna sends a Discard Notification to the FHI Payment system(MTn96/RJCT == pacs.002/admi.002).
2	The FHI Payment system settles the Return Payment /Cancels the reservation and sends a notification to the participant.

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	Funding, top-up

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 2022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pacs.009	Copy of the payment (Funding, top-up)
FHIs	MT296	camt.025	Processing notification
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection

6.3.4 Use Case LIQ-04 - Intra-day top-up for BPUCRSB

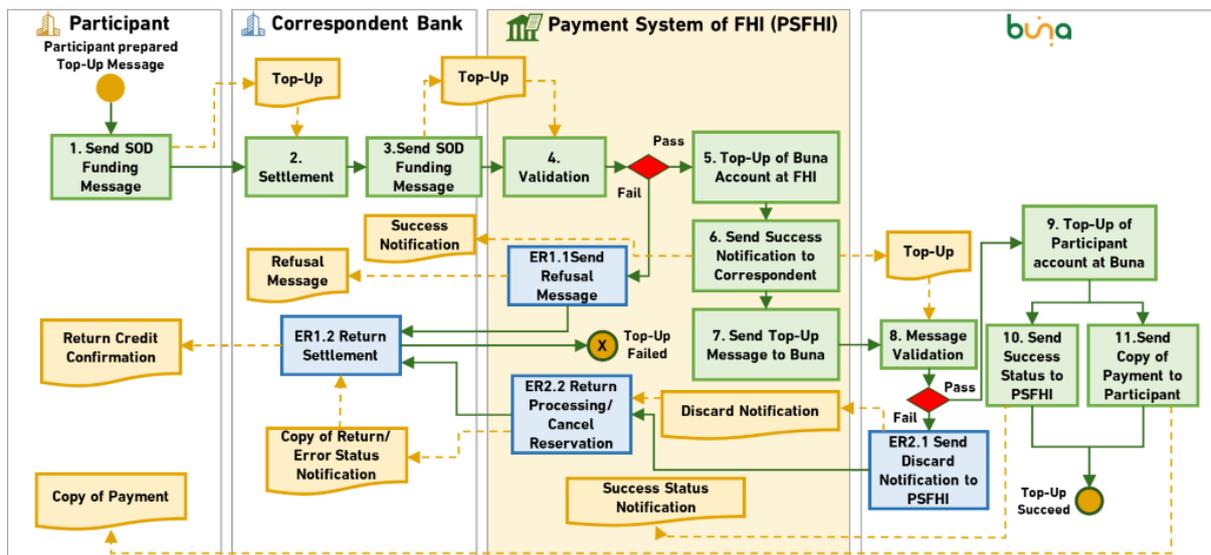


Figure 16: Intra-day top-up for BPUCRSB

Use Case ID	LIQ-04
Use Case Name	Intra-day top-up for BPUCRSB
Use Case Description	The transfer of funds by a participant to its Settlement account held in Buna during the day for the case when the participant does NOT have an account in the FHI Payment system
Primary Actors	Buna Participant, Correspondent Bank, FHI Payment system, Buna
Trigger Event	The Participant in the FHI Payment System initiates a transaction
Use Case Business Rules	
A Participant could top-up its account during the day if it's needed	
Uses	
N/A	
Pre-Conditions	
Start of day window is triggered	
Post Conditions	
Funds are transferred from the FHI Payment system to Buna and its accounts are updated	
Basic Flow	
1	The Participant sends a Top-up message to the correspondent bank.
2	The correspondent bank settles the transfer (according to its operating rules) in its Core Banking system.
3	The correspondent bank sends a Top-up message to the FHI Payment system
4	The FHI Payment system validates the message. In the case of an error proceed to ER1.1
5	The FHI Payment system processes the top-up of Buna account: <ul style="list-style-type: none"> ▪ Debits settlement account of the correspondent bank ▪ Credits account of Buna system
6	The FHI Payment system sends a success notification to the correspondent bank
7	The FHI Payment system sends a Top-up message to Buna (MT202 == pacs.009)

8	Buna validates the transfer. In the case of an error proceed to ER2
9	Buna debits the technical account of the appropriate currency linked to the FHI and credits the participant's Settlement Account linked to the FHI.
10	Buna sends a Success status Notification MT296 == pacs.002 to the FHI Payment system
11	Buna sends a copy of the payment to the Participant (MT202 == pacs.009)
Alternate Flows	
	N/A
Exceptions	
	E1: Error in the FHI Payment system
1	The FHI Payment system sends a Refusal message to the Correspondent bank
2	The Correspondent bank creates and settles the return
3	The Correspondent bank sends a copy of the return to the Participant
	E2. Error in Buna
1	Buna sends a Discard Notification to the FHI Payment system (MTn96/RJCT == pacs.002/admi.002)
2	The FHI Payment system processes the Return Payment /Cancels the Reservation and sends a notification to the Correspondent bank
3	The Correspondent bank creates and settles the return
4	The Correspondent bank sends a return credit confirmation to the Participant

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 2022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pac.009	Funding, top-up

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 2022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pac.009	Copy of payment (Funding, top-up)
FHIs	MT296	camt.025	Processing notification
FHIs	MT296	pac.002	Status of transfer
FHIs	MT296	admi.002	Message rejection

6.3.5 Use case: LIQ-05 - Intra-day participant withdrawal requests for BPA

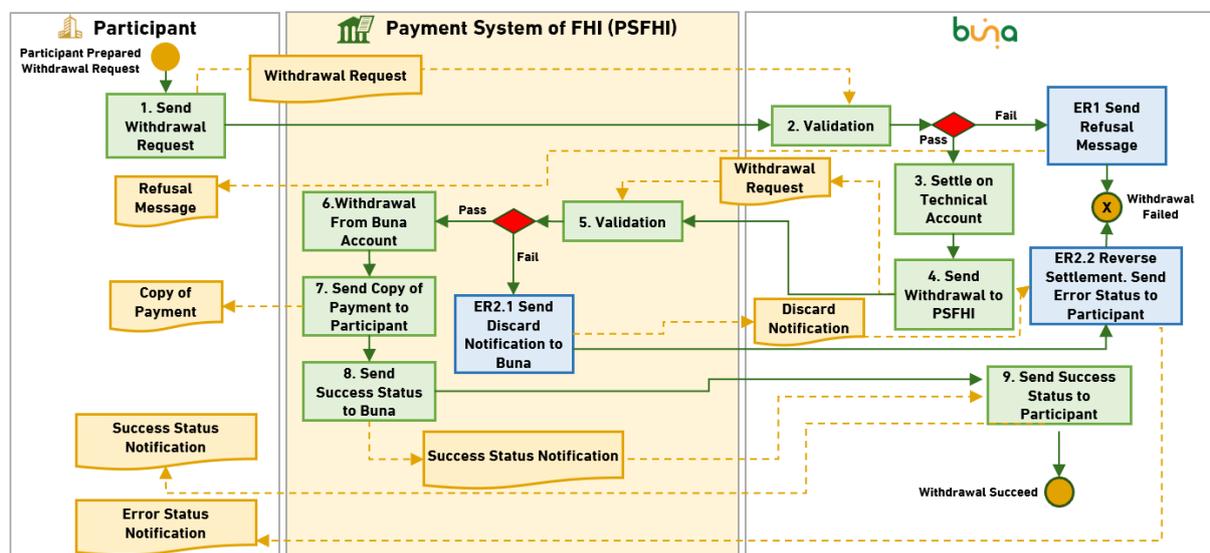


Figure 17: Intra-day participant withdrawal requests for BPA

Use Case ID	LIQ-05
Use Case Name	Intra-day participant withdrawal requests for BPA.
Use Case Description	Intra-day participant withdrawal from its Settlement account held in Buna upon request for the case when a participant has account in the FHI Payment system.
Primary Actors	Buna Participant, FHI Payment system, Buna
Trigger Event	The Participant sent a withdrawal request to Buna (MT202 == pacs.009)
Use Case Business Rules	
<p>Buna will work in tandem with all the Payment systems of FHI systems in all of the participating Arab countries. For global currencies (USD, EUR, etc.), more than one FHI can be registered as the FHI for each global currency. Buna will maintain a single account at the Central Bank of issue of each of the participating Arab currencies. As such, Buna will use the FHI Payment system for funding and de-funding participant accounts in Buna.</p>	
Uses	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
<p>Funds are transferred from Buna to the FHI Payment system and accounts are updated.</p>	
Basic Flow	
1	Buna Participant sends Withdrawal request (MT202 == pacs.009). to Buna as a receiver
2	Buna validates the transfer In a case of failure, proceed to ER1
3	Buna reserves the funds: <ul style="list-style-type: none"> ▪ Debit BP settlement account linked to the FHI ▪ Credit technical account in the FHI currency linked to the FHI
4	Buna sends a transfer to the FHI Payment system (MT202 == pacs.009).
5	FHI Payment system validates the transfer.

	In the case of failure proceed to ER2.
6	The FHI Payment system debits Buna account and credits the Participant Settlement Account.
7	The FHI Payment system sends a copy of the Transfer to the Participant
8	The FHI Payment system sends a success status to Buna (MT296/ACSC == pacs.002)
9	Buna sends success status to Participant
Alternate Flows	
	N/A
Exceptions	
	E1: Error in Buna
1	Buna sends an Error status to the Buna Participant (MT296/RJCT== pacs.002)
	E2. Error in FHI Payment system
1	The FHI Payment system sends a Discard Notification to Buna (MT296/RJCT == pacs.002 (business validation failed)/admi.002 (syntax validation failed, or access rights validation failed)).
2	Buna cancels the reservation and sends an Error status to the Participant (MT296/RJCT == pacs.002)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pacs.009	Withdrawal request
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection
FHIs	MT296	camt.025	Processing notification

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	Withdrawal request
Buna Participant	MT296	camt.025	Processing notification
Buna Participant	MT296	pacs.002	Status of transfer
Buna Participant	MT296	admi.002	Message rejection

6.3.6 Use case: LIQ-06 - Intra-day participant withdrawal requests for BPUCRSB

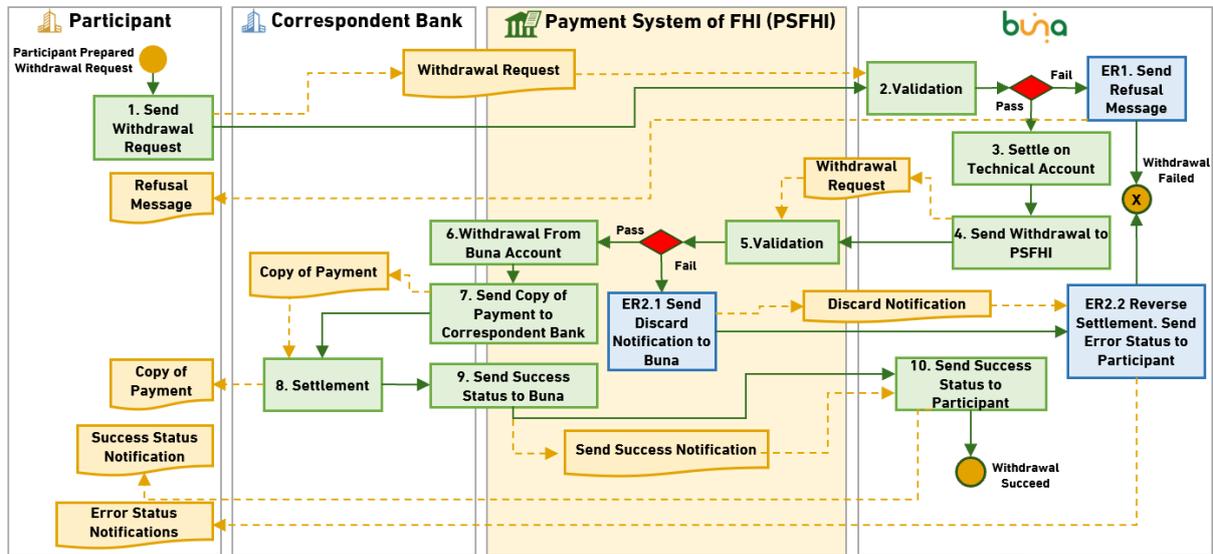


Figure 18: Intra-day participant withdrawal requests for BPUCRSB

Use Case ID	LIQ-06
Use Case Name	Intra-day participant withdrawal requests for BPUCRSB
Use Case Description	Intra-day participant withdrawal request from its Settlement account held in Buna upon request for the case when the participant does NOT have an account in the FHI Payment system
Primary Actors	Buna Participant, Correspondent Bank, FHI Payment system, Buna
Trigger Event	Participant sent a withdrawal request to Buna (MT202 == pacs.009)
Use Case Business Rules	
<p>Buna will work in tandem with all the Payment systems of FHI systems in all of the participating Arab countries. Buna will maintain a single account at the Central Bank of issue of each of the participating Arab currencies. As to global currencies (USD, EUR, etc.), more than one FHI can be registered as the FHI for each global currency. As such, Buna will use the FHI Payment system for funding and de-funding participant accounts in Buna</p>	
Uses	
N/A	
Pre-Conditions	
N/A	

Post Conditions	
Funds are transferred from Buna to the account of the Participant at the Correspondent bank Core Banking System	
Basic Flow	
1	The Buna Participant sends a Withdrawal request to Buna as a receiver
2	Buna validates the transfer In the case of failure proceed to ER1
3	Buna reserves the funds: <ul style="list-style-type: none"> ▪ Debits BP settlement account linked to FHI ▪ Credits technical account in the FHI currency linked to the FHI
4	Buna sends a transfer to the FHI Payment system (MT202 == pacs.009).
5	The FHI Payment system validates the transfer. In the case of failure proceed to ER2.1.
6	The FHI Payment system: <ul style="list-style-type: none"> ▪ Debits Buna account ▪ Credits participant settlement account
7	The FHI Payment system sends a Copy of the Payment to the Correspondent Bank
8	The Correspondent bank credits the participant account according to its operating rules and sends appropriate notifications
9	The FHI Payment system sends a Success status message to Buna (MT296/STAT ≡ pacs.002)
10	Buna sends success status to Participant
Alternate Flows	
1	N/A
Exceptions	
E1: Error in Buna	
1	Buna sends the Error status to the Buna Participant (MT296/RJCT == pacs.002)
E2. Error in FHI Payment system	
1	The FHI Payment system sends a Discard Notification to Buna (MT296/RJCT == pacs.002/admi.002)

2	Buna cancels the reservation and sends the Error status to the Participant (MT296/RJCT == pacs.002)
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Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 2022 EQUIVALENT	DESCRIPTION
Buna Participant	MT202	pacs.009	Withdrawal request
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection
FHIs	MT296	camt.025	Processing notification

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 2022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	Withdrawal request
Buna Participant	MT296	camt.025	Processing notification
Buna Participant	MT296	pacs.002	Status of transfer
Buna Participant	MT296	admi.002	Message rejection

6.3.7 Use case LIQ-07 - End-Of Day Participant De-Funding of Credit Balances for BPA

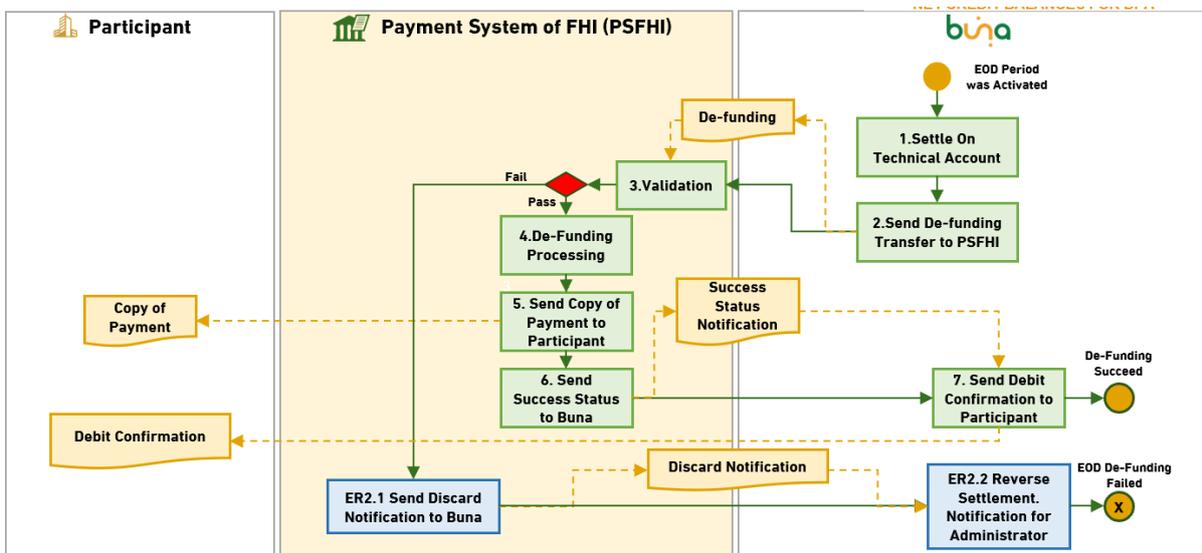


Figure 19: End-of day participant de-funding of credit balances for BPA

Use Case ID	LIQ-07
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Use Case Name	End-of day participant de-funding of net credit balances for BPA
Use Case Description	At the end of Buna operating day for a currency, Buna transfers excess balances for participants during the de-funding window via the FHI Payment system back to the participant account (for a case when the participant has an account in the FHI Payment system)
Primary Actors	Buna Participant, FHI Payment system, Buna
Trigger Event	EOD window is activated
Use Case Business Rules	
Buna will work in tandem with all the Payment systems of FHI systems in each of the participating Arab countries. Buna will maintain a single account at the Central Bank of issue of each of the participating Arab currencies. For global currencies (USD, EUR, etc.), more than one FHI can be registered as FHI for each global currency. As such, Buna will use the FHI Payment system for funding and de-funding participant accounts in Buna	
Uses	
N/A	
Pre-Conditions	
End of day window is triggered	
Post Conditions	
Funds are transferred from Buna to the FHI Payment system and accounts are updated.	
Basic Flow	
1	Buna reserves the funds: <ul style="list-style-type: none"> ▪ Debits BP settlement account linked to FHI ▪ Credits technical account in the FHI currency
2	Buna sends a transfer to the FHI Payment system (MT202 = = pacs.009)
3	The FHI Payment system validates the transfer. In the case of failure proceed to ER1.1.
4	The FHI Payment system: <ul style="list-style-type: none"> ▪ Debits Buna technical account ▪ Credits the participant settlement account.
5	The FHI Payment system sends a Copy of the payment to the participant

6	The FHI Payment system sends a success status to Buna (MT296/ACSC == pacs.002)
7	Buna sends a debit confirmation to the Participant (MT204 == pacs.010)
Alternate Flows	
	N/A
Exceptions	
E1. Error in the FHI Payment system (validation failed)	
1	Send a Discard notification to Buna (MT296/RJCT == pacs.002/admi.002)
2	Buna generates a notification for the Administrator to manually solve the error

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection
FHIs	MT296	camt.025	Processing notification

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	De-funding message
Buna Participant	MT204	pacs.010	Debit confirmation

6.3.8 Use case LIQ-08 - End-of day participant de-funding of credit balances for BPUCRSB

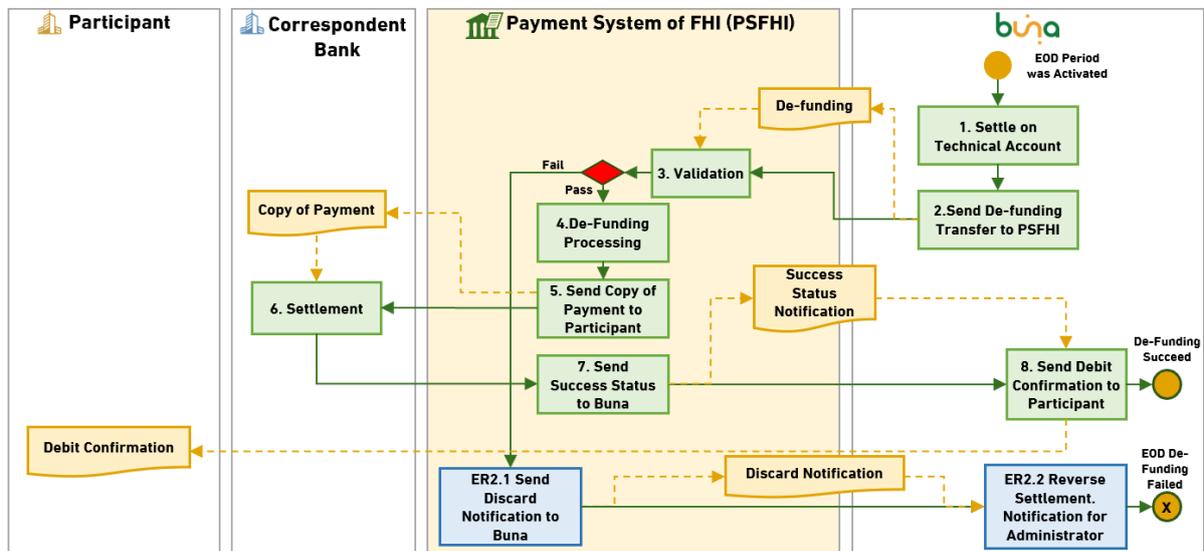


Figure 20: End-of day participant de-funding of credit balances for BPUCRSB

Use Case ID	LIQ-08
Use Case Name	End-of day participant de-funding of net credit balances for BPUCRSB
Use Case Description	At the end of Buna operating day for a currency, Buna transfers excess balances for participants during the de-funding window via the FHI Payment system back to the correspondent bank (whenever the participant has NO account in the FHI Payment system). Afterwards, the correspondent bank credits the participant account in its Core banking system
Primary Actors	Buna Participant, FHI Payment system, Buna, Correspondent bank
Trigger Event	EOD window is activated
Use Case Business Rules	
Buna works in tandem with all of the Payment systems of the FHI systems in each of the participating Arab countries. Buna will maintain a single account at the Central Bank of issue of each of the participating Arab currencies. For global currencies (USD, EUR, etc.), more than one FHI can be registered as FHI for each global currency. As such, Buna will use the Payment system of each FHI system for funding and de-funding participant accounts in Buna	
Uses	
N/A	
Pre-Conditions	

End of day window is triggered	
Post Conditions	
Funds are transferred from Buna to the Buna Participant and the accounts are updated	
Basic Flow	
1	Buna reserves the funds: <ul style="list-style-type: none"> ▪ Debits: BP settlement account linked to the FHI ▪ Credits: Technical account in the FHI currency
2	Buna sends a transfer to the FHI Payment system (MT202 = pacs.009)
3	The FHI Payment system validates the transfer. In a case of failure proceed to ER1
4	The FHI Payment system: <ul style="list-style-type: none"> ▪ Debits Buna technical account ▪ Credits the participant settlement account
5	The FHI Payment system sends a Copy of the payment to the Correspondent bank
6	The Correspondent bank credits the participant account according to its operating rules and sends appropriate notifications
7	The FHI Payment system sends a success status to Buna (MT296/ACSC = pacs.002)
8	Buna sends a settlement notification to the Participant (MT204 == pacs.010)
Alternate Flows	
	N/A
Exceptions	
	E1. Error in FHI Payment system (validation failed)
1	Send a Discard notification to Buna (MTn96/RJCT == pacs.002/admi.002)
2	Buna generates a notification for the Administrator to manually solve this error

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT296	pacs.002	Status of transfer
FHIs	MT296	admi.002	Message rejection
FHIs	MT296	camt.025	Processing notification

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FHIs	MT202	pacs.009	De-funding message
Buna Participant	MT204	pacs.010	Debit confirmation

6.3.9 Use Case LIQ-09 – Receive Notifications About Top-Up Needed

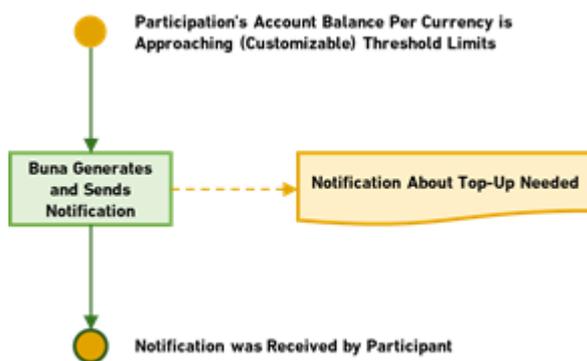


Figure 21: Receive notifications about top-up needed

Use Case ID	LIQ-09
Use Case Name	Notification of participants about top-up needed
Use Case Description	Buna sends a notification about the top-up needed
Primary Actors	Buna, Buna Participants
Trigger Event	<ul style="list-style-type: none"> ▪ There is a new payment in the liquidity queue ▪ The Participant's settlement account balance is approaching (customizable) threshold limits
Use Case Business Rules	
Buna DBO Administrator manages threshold per each account via DBO workplace.	
Pre-Conditions	
N/A	
Post Conditions	
Message is distributed to Buna participant with top-up needed	
Basic Flow	

1	Buna generates the notification (MT986/STAT == camt.052/TPND)
2	The notification is received by the Buna Participant
Alternate Flows	
	N/A
Exceptions	
	N/A

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participant	MT986/STAT	camt.052/TPND	Notification about top-up needed

6.3.10 Use Case LIQ-10 – Foreign exchange support

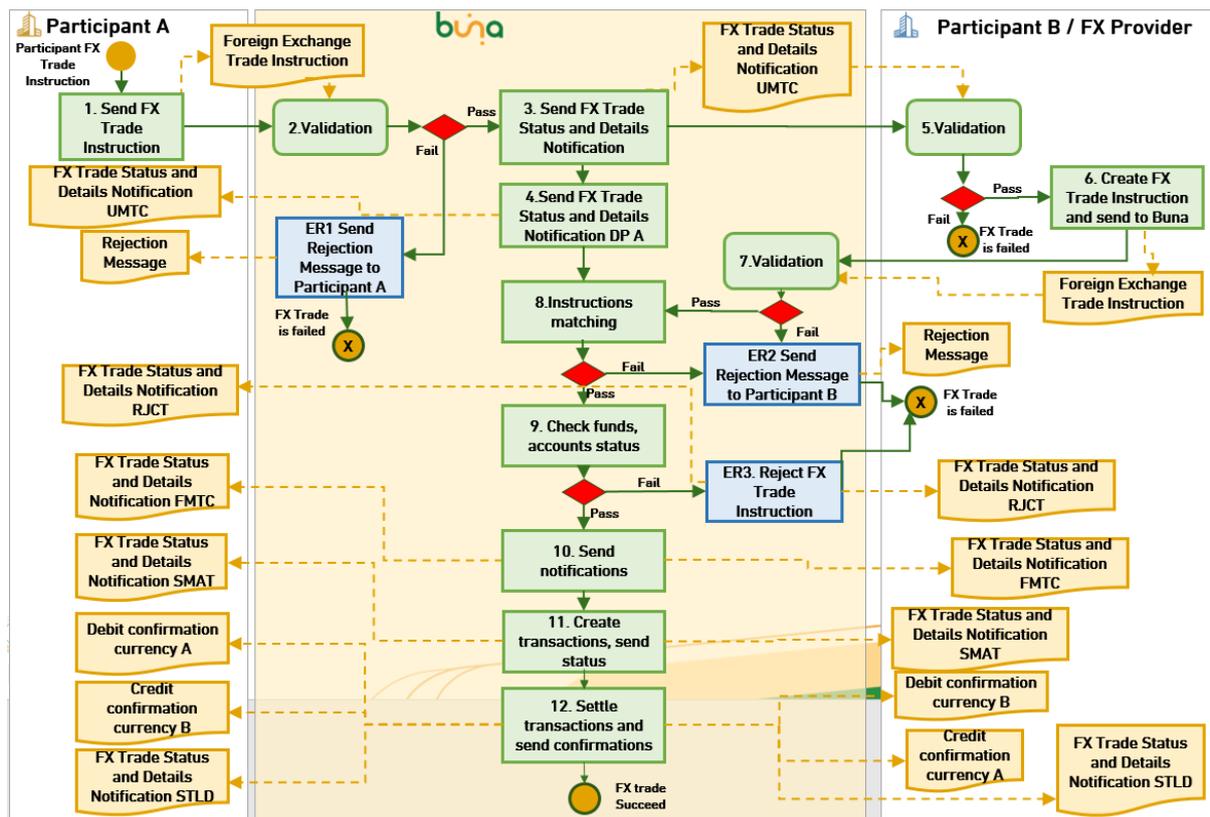


Figure 22: Foreign Exchange support

Use Case ID	LIQ-10
Use Case Name	Foreign exchange support

Use Case Description	Foreign exchange can be done using Foreign Exchange Trade Instructions
Primary Actors	Buna Participant, Foreign exchange provider
Trigger Event	The Participant sends Foreign Exchange Trade instruction to Buna
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ Participant A sends Foreign Exchange Trade instruction (it wants to sell currency A and to buy currency B), Participant B/Foreign exchange provider sends Foreign Exchange Trade instruction with appropriate values (sells currency B and buys currency A) and Buna system matches them. If 2 instructions were matched, then 2 transactions will be processed simultaneously. ▪ Future trade date is prohibited. ▪ Buna system will check whether currency pair is registered for FX Provider for the current Trade date ▪ Total value in base/counter currency can include FX Provider's commission, Buna system will not check total amounts in base, counter currencies with the exchange rate. It will be a matter of the deal between Buna Participant and FX Provider. ▪ Buna system will not process FX Provider's commission separately. Total amounts in the base currency and counter currency will be used for the transactions creation. 	
Uses	
N/A	
Pre-Conditions	
Data for the FX operation can be requested from FX Provider using 6.8.1 Use Case CONS-01: Request exchange rate from the FX Provider	
Post Conditions	
Transactions in 2 currencies are settled	
Basic Flow	
1	The Participant A sends Foreign Exchange Trade instruction (MT298/300 == fxtr.014) to Buna
2	<p>Buna validates the message:</p> <ul style="list-style-type: none"> • Non-payment message validation (6.5.1 Use Case NPM-01 - Non-payment message validation) • Trade date is not in the past. <p>In a case of error proceed to ER1</p>

3	Buna sends FX Trade Status and Details Notification (MT296/FXSD/UMTC == fxtr.017/UMTC) to Participant B/Foreign Exchange provider
4	Buna sends FX Trade Status and Details Notification UMTC (MT296/FXSN/UMTC == fxtr.017/UMTC) to BP A
5	Participant B/Foreign Exchange provider validates FX Trade Status and Details Notification In case of error – no further actions, 2 nd instruction will not be sent.
6	Participant B/Foreign Exchange provider creates FX Trade Instruction (MT298/300 == fxtr.014) and sends to Buna
7	Buna validates the message: <ul style="list-style-type: none"> • Non-payment message validation (6.5.1 Use Case NPM-01 - Non-payment message validation) • Trade date is not in the past. In a case of error proceed to ER2
8	Buna executes Instructions matching (For details refer to Message formats document) In a case of error proceed to ER2
9	Buna checks funds availability and account status (unlocked for debit/credit) Enough funds and accounts unlocked – proceed to 10 Failed –proceed to ER3
10	Buna sends FX Trade Status and Details Notification (MT296/FXSD == fxtr.017/FMTC) to Participant A and status FMTS (MT296/FXSN/FMTC == fxtr.017/FMTC) to Participant B
11	Transaction creation and FX Trade Status and Details Notification ((MT296/FXSN/SMAT == fxtr.017/SMAT)
12	Buna settles transactions and sends confirmations: <ul style="list-style-type: none"> • Debit confirmation currency A (MT900 == camt.054) and Credit confirmation currency B (MT910 == camt.054) and FX Trade Status and Details Notification (MT296/FXSN/STLD == fxtr.017/STLD) to Participant A • Debit confirmation currency B (MT900 == camt.054) and Credit confirmation currency A (MT910 == camt.054) and FX Trade Status and Details Notification (MT296/FXSN/STLD == fxtr.017/STLD) to Participant B
Alternate Flows	
	N/A
Exceptions	

	ER1: Validation of Participant A instruction is failed
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)
	ER2: Validation of Participant B instruction is failed
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)
	ER3: Not enough funds on debited account or account is locked
1	Buna sends FX Trade Status and Details Notification with rejection code (MT296/RJCT == fxtr.017/RJCT) to Participant A and Participant B

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP, FX Provider	MT298/300	fxtr.014	Foreign exchange trade instruction

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP, FX Provider	MT296	fxtr.017	FX Trade Status and Details Notification
BP, FX Provider	MT296	camt.025	Message rejection
BP, FX Provider	MT996	admi.002	Message rejection
BP, FX Provider	MT900	camt.054	Debit confirmation
BP, FX Provider	MT910	camt.054	Credit confirmation

6.3.11 Use Case LIQ-11 – Foreign exchange Trade Instruction cancellation

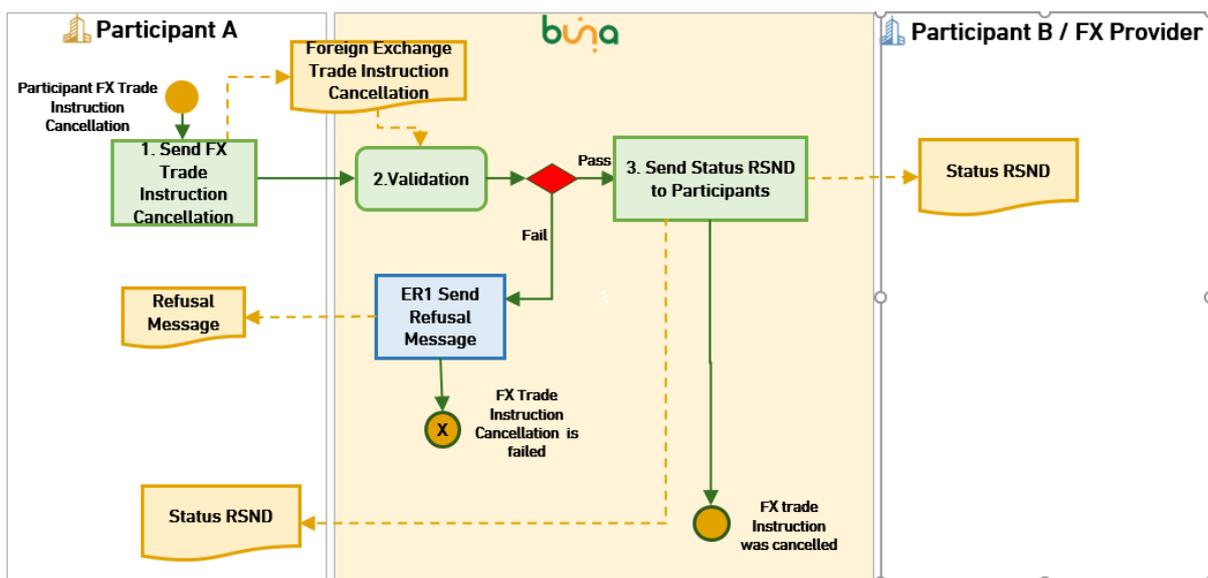


Figure 23: Foreign Exchange support

Use Case ID	LIQ-11
Use Case Name	Foreign exchange Trade Instruction cancellation
Use Case Description	Foreign exchange Trade Instruction cancellation
Primary Actors	Buna Participant, Foreign exchange provider
Trigger Event	The Participant sends Foreign Exchange Trade Instruction Cancellation to Buna
Use Case Business Rules	
Participant A can send cancellation for FX Trade instruction that hasn't matched yet	
Uses	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
FX Trade Instruction was cancelled	
Basic Flow	
1	The Participant A sends Foreign Exchange Trade Instruction Cancellation request (MT298/392 ≡ fxtr.016) to Buna
2	Buna validates the message: <ul style="list-style-type: none"> • Non-payment message validation (6.5.1 Use Case NPM-01 - Non-payment message validation) • FX Trade instruction that hasn't settled yet In a case of error proceed to ER1
3	Buna sends camt.025 (successful processing status) and FX Trade Cancellation Status (MT296/RSCD == fxtr.013) to Participant A and Participant B/Foreign Exchange provider
Alternate Flows	
	N/A
Exceptions	

	E1: Validation of Participant A instruction is failed
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP	MT298/392	fxtr.016	Foreign Exchange Trade instruction Cancellation request

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP	MT296/RSCD	fxtr.013	Cancellation status message
BP	MT296	camt.025	Processing notification/message rejection
BP	MT996	admi.002	Message rejection

6.3.12 Use Case LIQ-12: Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation

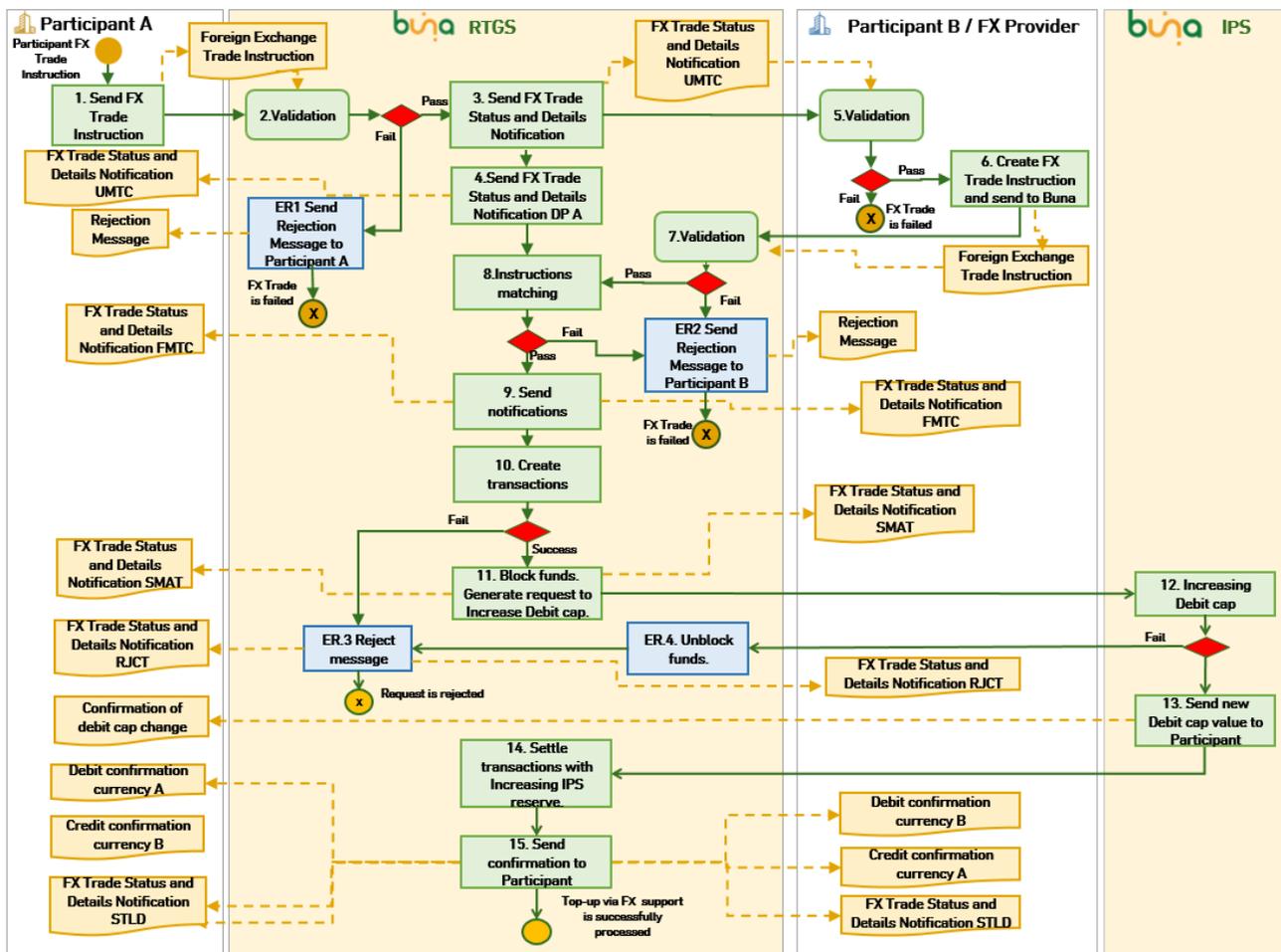


Figure 24: Top-up (increase) of Settlement limit account Debit cap after foreign exchange support operation

Use Case ID	IPS-LIQ-12
Use Case Name	Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation
Use Case Description	Top-up (increase) of IPS Settlement limit account Debit cap after foreign exchange support operation
Primary Actors	Master Participant, FX Provider, Buna IPS, Buna RTGS
Trigger Event	The Participant sends Foreign Exchange Trade instruction to Buna with crediting IPS Reserve
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ Participant A sends Foreign Exchange Trade instruction, Participant B/Foreign exchange provider sends Foreign Exchange Trade instruction with appropriate values and Buna system matches them. If 2 instructions were matched, then 2 transactions will be processed simultaneously. ▪ Future trade date is prohibited. ▪ IPS reserve can be credited only. Only main debit can be debited. <p>For more details about Foreign exchange support use RTGS appropriate Use Cases:</p> <ol style="list-style-type: none"> 1. LIQ-11 «Foreign exchange Trade Instruction cancellation» 2. QUE-05 «Manage Payments at EOD» 	
Post Conditions	
Transactions in 2 currencies are settled. Top-up of Settlement limit account occurred.	
Basic Flow	
1	The Participant A sends Foreign Exchange Trade instruction (MT298/300 == fxtr.014) to Buna RTGS. IPS reserve is crediting.
2	<p>Buna RTGS validates the message:</p> <ul style="list-style-type: none"> • Non-payment message validation (6.5.1Use Case NPM-01 - Non-payment message validation) • Trade date is not in the past. <p>In a case of error proceed to ER1</p>
3	Buna RTGS sends FX Trade Status and Details Notification (MT296/FXSD/UMTC == fxtr.017/UMTC) to Participant B/Foreign Exchange provider.
4	Buna sends FX Trade Status and Details Notification UMTC (MT296/FXSN/UMTC == fxtr.017/UMTC) to BP A.

5	<p>Participant B/Foreign Exchange provider validates FX Trade Status and Details Notification</p> <p>In case of error – no further actions, 2nd instruction will not be sent.</p>
6	<p>Participant B/Foreign Exchange provider creates FX Trade Instruction (MT298/300 == fxtr.014) and sends to Buna RTGS</p>
7	<p>Buna RTGS validates the message:</p> <ul style="list-style-type: none"> • Non-payment message validation (6.5.1Use Case NPM-01 - Non-payment message validation) • Trade date is not in the past. <p>In a case of error proceed to ER2</p>
8	<p>Buna RTGS executes Instructions matching (For details refer to Message formats document)</p> <p>In a case of error proceed to ER2</p>
9	<p>Buna sends FX Trade Status and Details Notification (MT296/FXSD == fxtr.017/FMTC) to Participant A and status FMTC (MT296/FXSN/FMTC == fxtr.017/FMTC) to Participant B</p>
10	<p>Transaction creation.</p> <p>Success – go to 11</p> <p>Failed (because of lack of funds or account lock) – go to ER3</p>
11	<p>Buna RTGS</p> <ul style="list-style-type: none"> • sends FX Trade Status and Details Notification (MT296/FXSN/SMAT == fxtr.017/SMAT) • blocks funds for IPS reserve • generates internal request to increase Debit cap to Buna IPS.
12	<p>Buna IPS increases the Settlement limit account Debit cap.</p> <p>Success – go to 13</p> <p>Failed – go to ER3</p>
13	<p>Buna IPS sends new Debit cap value (camt.010) to Participant</p>
14	<p>Buna RTGS settles the transactions</p>
15	<p>Buna RTGS sends confirmations:</p> <ul style="list-style-type: none"> • Debit confirmation currency A (MT900 == camt.054) and Credit confirmation currency B (MT910 == camt.054) and FX Trade Status and Details Notification (MT296/FXSN/STLD == fxtr.017/STLD) to Participant A

	Debit confirmation currency B (MT900 == camt.054) and Credit confirmation currency A (MT910 == camt.054) and FX Trade Status and Details Notification (MT296/FXSN/STLD == fxtr.017/STLD) to Participant B
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation of Participant A instruction is failed
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)
	ER2: Validation of Participant B instruction is failed
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)
	ER3: Transactions were not created because of lack of funds or account lock.
1	Buna RTGS rejects Request and sends FX Trade Status and Details Notification RJCT (MT296/FXSN/RJCT == fxtr.017/RJCT)) to Settlement limit account holder
	ER4: Attempt to increase settlement limit account Debit Cap was failed.
1	Buna RTGS unblocks funds.

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP, FX Provider	MT298/300	fxtr.014	Foreign exchange trade instruction

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BP, FX Provider	MT296	fxtr.017	FX Trade Status and Details Notification
BP, FX Provider	MT296	camt.025	Processing notification
BP, FX Provider	MT996	admi.002	Message rejection
BP, FX Provider	MT900	camt.054	Debit confirmation
BP, FX Provider	MT910	camt.054	Credit confirmation

BP	N/A (as will be sent via IPS channel)	camt.010	Debit cap change
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6.3.13 Use Case LIQ-13: Set FX rate by FX Provider

Set FX rate

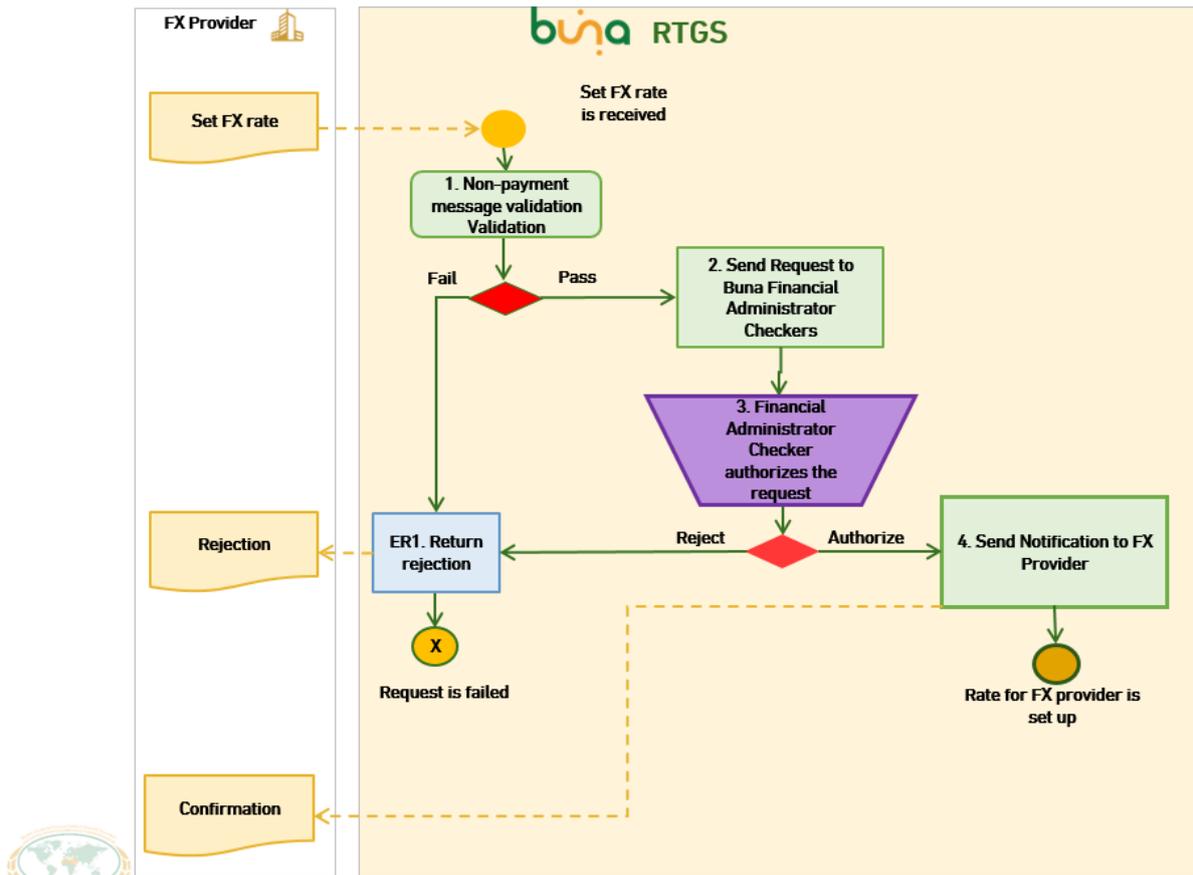


Figure 25: Set FX rate by FX Provider

Use Case ID	IPS-LIQ-13
Use Case Name	Set FX rate by FX Provider
Use Case Description	Register currency pair for the Trade date with optional FX rate data by FX Provider
Primary Actors	FX Provider, Buna RTGS
Trigger Event	The Participant sends Set FX rate instruction to Buna with registering currency pair for the Trade date
Use Case Business Rules	
<ul style="list-style-type: none"> ▪ Set FX rate instruction can contain several trade dates. ▪ Set FX rate instruction can contain several currency pairs in one message. 	

<ul style="list-style-type: none"> ▪ Currency pair for the Trade date can be registered either with FX or without it. 	
Post Conditions	
Currency pair for the Trade date is registered	
Basic Flow	
1	<p>FX provider sends Set FX rate instruction (MT298/377 == camt.998 set FX rate) to Buna RTGS.</p> <p>Buna RTGS validates the message:</p> <ul style="list-style-type: none"> • Non-payment message validation (6.5.1 Use Case NPM-01 - Non-payment message validation) <p>In a case of error proceed to ER1</p>
2	Optional step (depends on the current settings): Buna RTGS sends instruction to the Buna Financial Administrator Checker
3	<p>Buna Financial Administrator Checker makes a decision:</p> <p>Authorize – go to 4.</p> <p>Reject – go to ER1.</p>
4	Buna saves currency pairs for the Trade dates for current FX provider and sends Notifications about successful operation (MT298/379 == camt.017 and MT296 == camt.025) to FX Provider
Alternate Flows	
	N/A
Exceptions	
	ER1: Financial Administrator rejected an operation
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 == camt.025)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FX Provider	MT298/377	camt.998 set FX rate	Set FX rate instruction

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
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FX Provider	MT298/379	camt.017	Information about current FX rates
FX Provider	MT296	camt.025	Processing notification
FX Provider	MT996	admi.002	Message rejection

6.3.14 Use Case LIQ-14: Delete FX rate by FX Provider

Delete FX rate

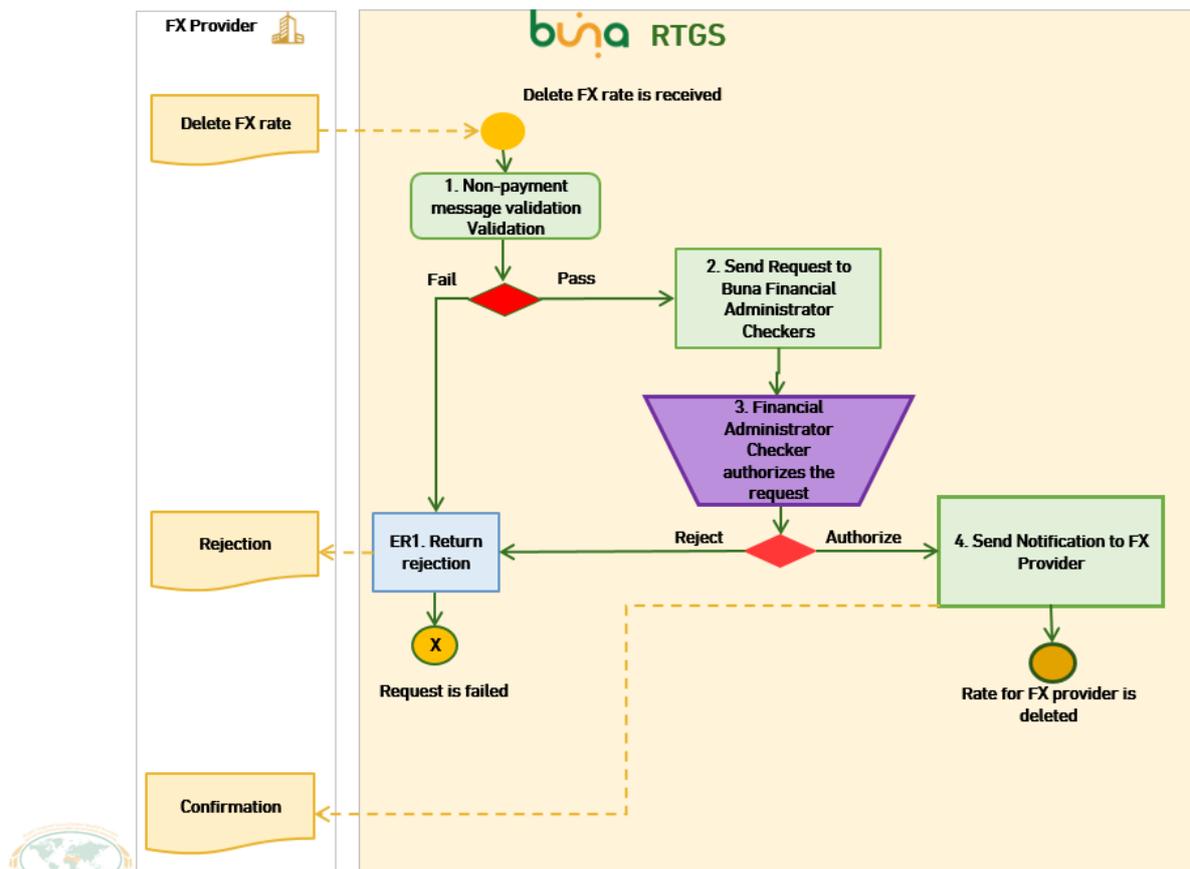


Figure 26: Delete FX rate by FX Provider

Use Case ID	IPS-LIQ-14
Use Case Name	Delete FX rate by FX Provider
Use Case Description	Remove currency pair for the Trade date by FX Provider
Primary Actors	FX Provider, Buna RTGS
Trigger Event	The Participant sends Delete FX rate instruction to Buna

Use Case Business Rules	
<ul style="list-style-type: none"> ▪ Delete FX rate instruction can contain several trade dates. ▪ Delete FX rate instruction can contain several currency pairs in one message. ▪ 	
Post Conditions	
Currency pair for the Trade date is deleted	
Basic Flow	
1	FX provider sends Delete FX rate instruction (MT298/378 == camt.998 delete FX rate) to Buna RTGS. Buna RTGS validates the message: <ul style="list-style-type: none"> • Non-payment message validation (6.5.1 Use Case NPM-01 - Non-payment message validation) In a case of error proceed to ER1
2	Optional step (depends on the current settings): Buna RTGS sends instruction to the Buna Financial Administrator Checker
3	Buna Financial Administrator Checker makes a decision: Authorize – go to 4. Reject – go to ER1.
4	Buna removes currency pairs for the Trade dates for current FX provider and sends Notification about successful operation (MT296== camt.025) to FX Provider
Alternate Flows	
	N/A
Exceptions	
	ER1: Financial Administaror rejected an operation
1	Buna sends rejection message to Participant (MT996 == admi.002 OR MT296 ==camt.025)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FX Provider	MT298/378	camt.998 delete FX rate	Delete FX rate instruction

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
FX Provider	MT296	camt.025	Processing notification
FX Provider	MT996	admi.002	Message rejection

6.4 REQUEST AND REPORT USE CASES

6.4.1 Use Case RPT-01 - Report Request

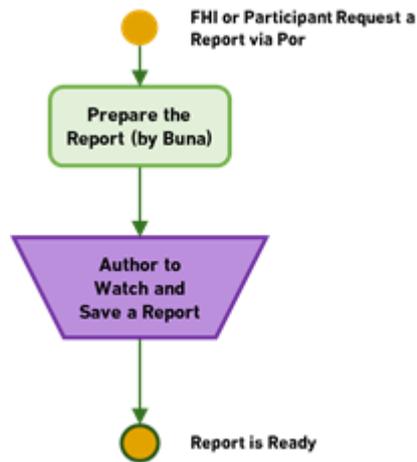


Figure 27: Report Request

Use Case ID	RPT-01
Use Case Name	Report Request
Use Case Description	This Use case describes common behavior for all report request use cases initiated by a participant from the WEB Front GUI (Portal)
Primary Actors	BP/FHI/CEB GUI User
Trigger Event	GUI User captures a report request through the WEB Front GUI (Portal)
Use Case Business Rules	
The user has permission to request the report.	
Pre-Conditions	
N/A	
Post Conditions	
The Report is returned to the BP/FHI User through the WEB Front GUI (Portal)	
Basic Flow	
1	The user generates a report request and the request instruction is sent to Buna
2	The report is generated
3	The report is available to requesting BP/FHI/CEB GUI Users through the WEB Front GUI (Portal)
Alternate Flows	
	N/A
Exceptions	
	N/A

6.4.2 Use Case RPT-02 - Receive EOD Statement

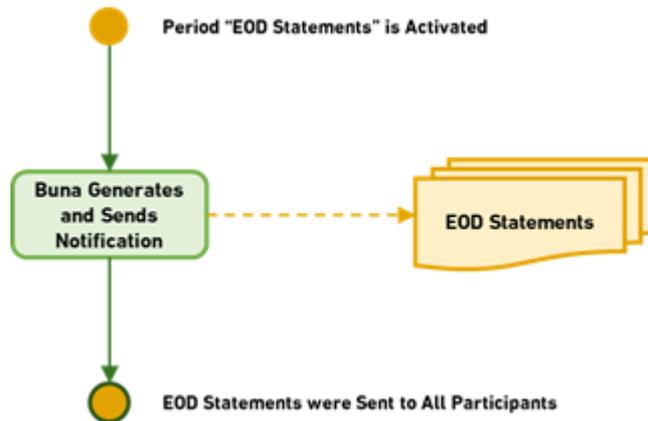


Figure 28: Receive EOD Statement

Use Case ID	RPT-02
Use Case Name	Receive the End of Day Statement
Use Case Description	Receive the End of Day Statement sent by Buna
Primary Actors	Buna, Buna Participants
Trigger Event	EOD Window is initiated at Buna
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Message is received by participants	
Basic Flow	
1	Buna generates the End of Day Statements (MT950 == camt.053)
2	The statements are received by the BP
Alternate Flows	
N/A	

Exceptions	
	N/A

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participant	MT950	camt.053	End of Day Statement

6.4.3 Use Case RPT-03 – Request and receive Account Balance Report

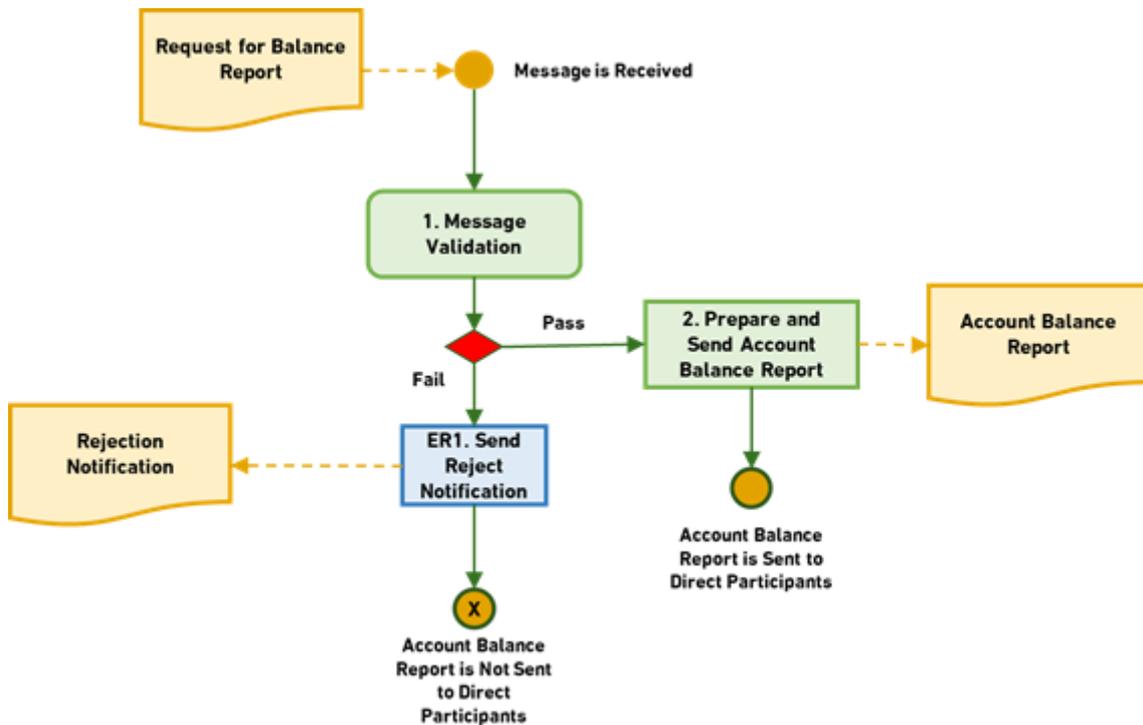


Figure 29: Request and receive Account Balance Report

Use Case ID	RPT-03
Use Case Name	Request and Receive the Account Balance Report
Use Case Description	Request and Receive the Account Balance Report following the Participant's request
Primary Actors	Buna Participants
Trigger Event	MT920/941 == camt.060/BALR: Balance request message was received.
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
The Account Balance report is received by the participant	
Basic Flow	
1	Execute UC029 Non-Payment message validation (alternative flow description can be seen in this UC029).
2	Buna generates the Account Balance Report MT941 == camt.052/BALR and sends it to the participant.
3	The Account Balance report is received by the participant
Alternate Flows	
N/A	
Exceptions	
N/A	

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT920/941	camt.060/BALR	Balance request

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT941	camt.052/BALR	Balance Report
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/ERRC	camt.025	Error message
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/RJCT	admi.002	Rejection message

6.4.4 Use Case RPT-04 - Request Transaction Status

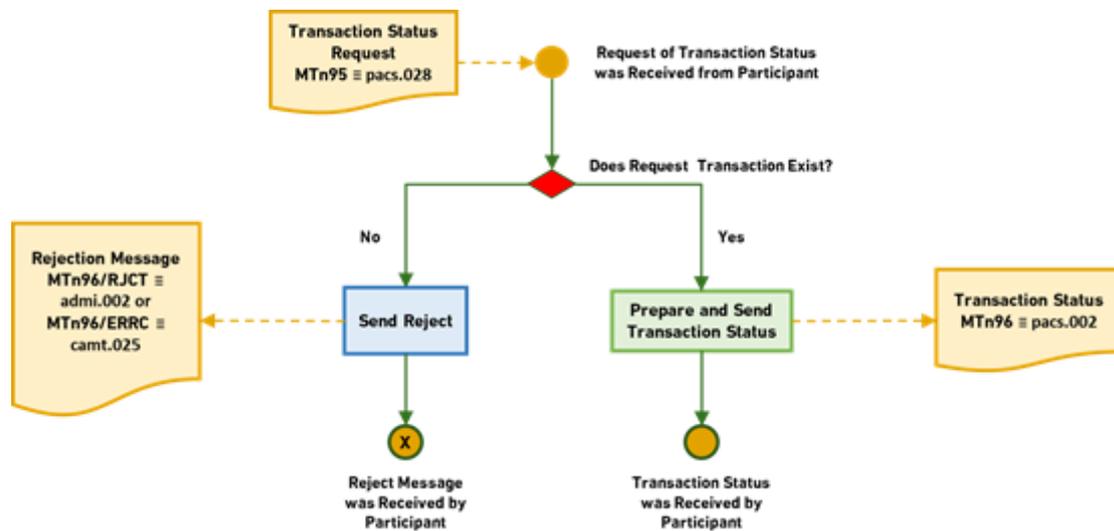


Figure 30: Request Transaction Status

Use Case ID	RPT-04
Use Case Name	Request Transaction Status
Use Case Description	Request the current status of a transaction
Primary Actors	Buna Participant, Buna
Trigger Event	Transaction status request message (MTn95 == pacs.028)
Use Case Business Rules	

N/A	
Pre-Conditions	
N/A	
Post Conditions	
Status is sent to the sender of the request	
Basic Flow	
1	Buna generates and sends a transaction status message to the sender of the request (MTn96 == pacs.002).
2	The Buna Participant receives the transaction status
Alternate Flows	
1	If an error occurs when the request is processing, a rejection notification will be sent to the sender of the request (MTn96/RJCT == admi.002 or MTn96/ERRC == camt.025)
Exceptions	
	N/A

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants	MT195	pac.028	Transaction status request
Buna Participants	MT295	pac.028	Transaction status request

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants (CEBs acting as BPs also)	MT196/ERRC	camt.025	Processing error
Buna Participants (CEBs acting as BPs also)	MT296/ERRC	camt.025	Processing error
Buna Participants (CEBs acting as BPs also)	MT198/RJCT	admi.002	Rejection message
Buna Participants (CEBs acting as BPs also)	MT298/RJCT	admi.002	Rejection message
Buna Participants (CEBs acting as BPs also)	MT196	pac.002	Status of transfer
Buna Participants (CEBs acting as BPs also)	MT296	pac.002	Status of transfer

6.5 NON-PAYMENT MESSAGE FLOWS

6.5.1 Use Case NPM-01 - Non-payment message validation

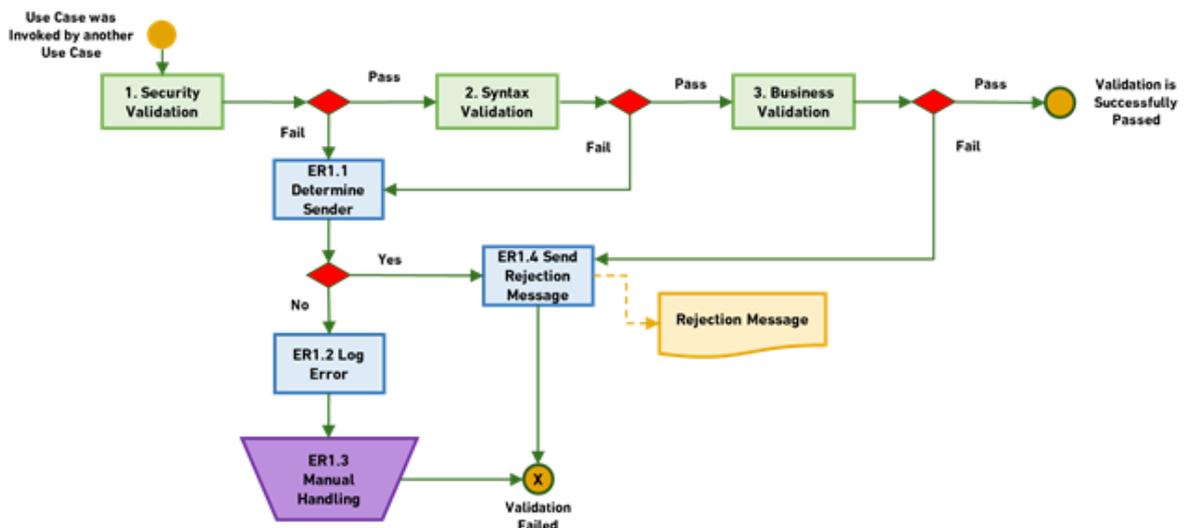


Figure 31: Non-payment message validation

Use Case ID	NPM-01
Use Case Name	Non-payment Message validation
Use Case Description	The General validation process for all incoming non-payment messages. Validation rules could be extended in other use cases for specific scenarios
End Objective	Incoming message is validated
Primary Actors	Validation is a sub process. It is invoked by primary use cases
Trigger Event	Incoming non-payment message
Use Case Business Rules	
<p>Security Validation:</p> <ol style="list-style-type: none"> The Incoming message signature is valid for the sender <p>Structural Validation:</p> <ol style="list-style-type: none"> The Incoming message conforms to the XSD scheme <p>Business Validation:</p> <ol style="list-style-type: none"> The Message type is allowed in the current window (business day period) Sender's incoming messages are not blocked Access Rights: The following rules must be met: <ol style="list-style-type: none"> The sender has permission to use the message type for the current business day window The sender has permission to act on behalf of the originator 	
Pre-Conditions	
The Incoming message received from either the Swift network or VPN	
Post Conditions	
The Incoming message is successfully validated or rejected	
Basic Flow	
1	Security Validation: Check the signature against the sender of the message. On failure execute ER1.1
2	Syntax Validation: Perform XSD validation of the incoming message. On failure execute ER1.1
3	Business validation: Check all business rules. In cases of failure execute ER1.3

Alternate Flows	
	N/A
Exceptions	
ER1.1	Try to determine the sender. If the sender of the message can be determined, then execute ER1.3. else execute ER1.2
ER1.2	Log error
ER1.3	Manual handling
ER1.4	Send reject notification to the sender of the incoming message: MTn96/ERRC == camt.025 or MTn96/RJCT == admi.002

6.5.2 Use Case NPM-02 - Broadcast text message

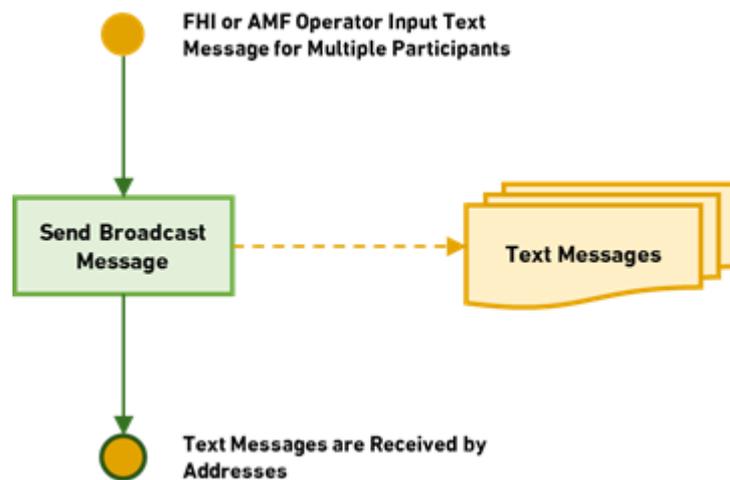


Figure 32: Broadcast text message

Use Case ID	NPM-02
Use Case Name	Broadcast text message
Use Case Description	FHIs can send broadcast text messages to all regulated or having linked accounts participants or to selected participants of the system
Primary Actors	Buna, FHI, Buna Participants
Trigger Event	FHI GUI User captured a Broadcast text message through the WEB Front GUI (Portal)

Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Message is received by addressees	
Basic Flow	
1	Buna/FHI inputs a message via the Portal
2	A Message is sent to addressees (camt.998 == MT999/TEXT)
Alternate Flows	
	N/A
Exceptions	
	N/A

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/TEXT	camt.998/ text Message	Text Message

6.5.3 Use Case NPM-03- Text messages between participants

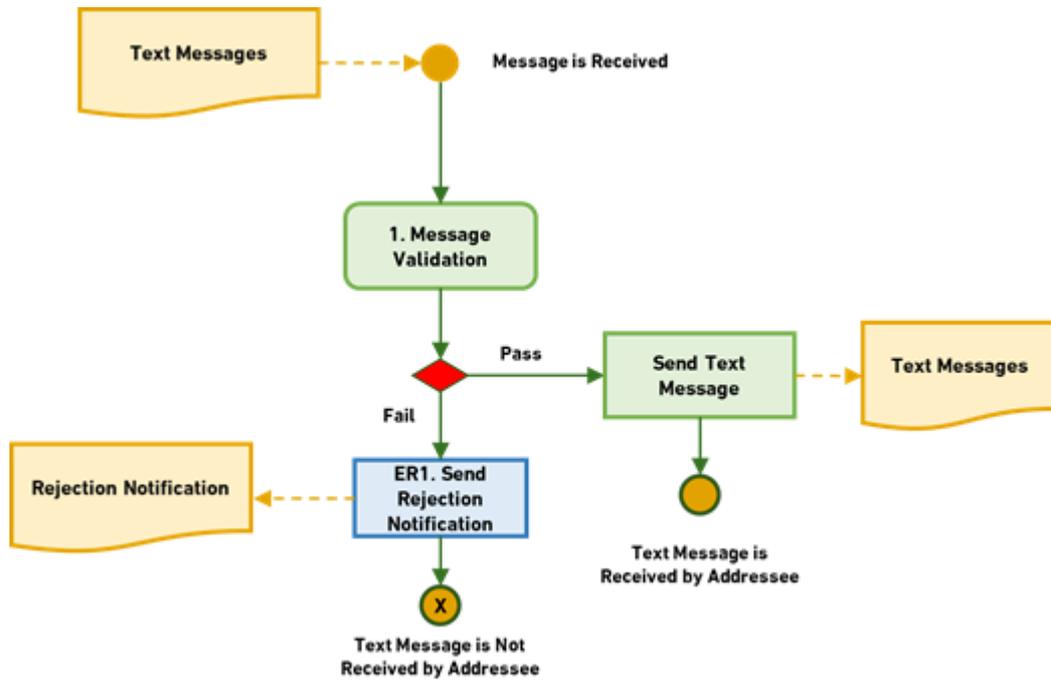


Figure 33: Text messages between participants

Use Case ID	NPM-03
Use Case Name	Text messages between participants
Use Case Description	Buna Participants can send messages to each other (one to one)
Primary Actors	Buna Participants
Trigger Event	A GUI User captures the text message through the WEB Front GUI (Portal)
Use Case Business Rules	
Buna Participants can send a message to just one addressee	
Pre-Conditions	
N/A	
Post Conditions	
Message is received by the addressee	
Basic Flow	
1	A Buna Participant inputs a message via the Portal
2	A Message is received by the addressee (camt.998 == MT999)
Alternate Flows	
N/A	
Exceptions	
N/A	

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/TEXT	camt.998	Text Message

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/TEXT	camt.998/ text Message	Text Message
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/ERRC	camt.025	Error message
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/RJCT	admi.002	Rejection message

6.5.4 Use Case NPM-04 - Receive Business Day Notifications

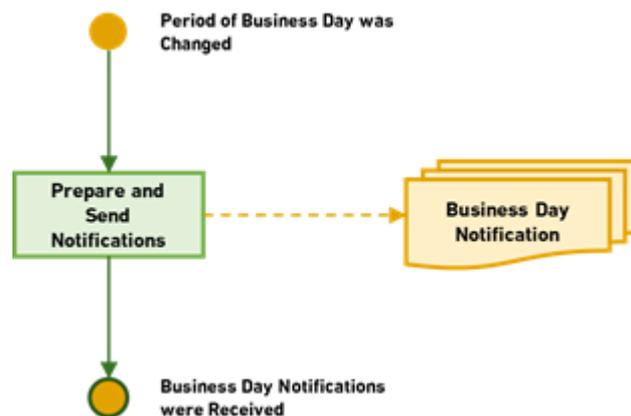


Figure 34: Receive business day notifications

Use Case ID	NPM-04
Use Case Name	Receive business day notifications
Use Case Description	Automatically receive business day notifications for manual business day changes and automatic changes in the window.
Primary Actors	Buna, BP, FHI
Trigger Event	Change of window in Buna
Use Case Business Rules	
<p>Buna will send notifications for activation of new business day periods (for each FHI separately) to notify Participants:</p> <ul style="list-style-type: none"> ▪ At Start time of FHI Schedule ▪ At Closing time of FHI Schedule ▪ At start of Defunding ▪ At start of common Schedule business day periods for which participant has subscription 	
Pre-Conditions	
N/A	
Post Conditions	
Message is distributed to Buna participants	
Basic Flow	
1	Buna generates business day notifications
2	Notifications are received by participants /FHIs (camt.019 == MT999/SCDW)
Alternate Flows	
	N/A
Exceptions	
	N/A

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/SCDW	camt.019	Business day notifications

6.5.5 Use Case NPM-05 – Request and Receive Business Day Timetable

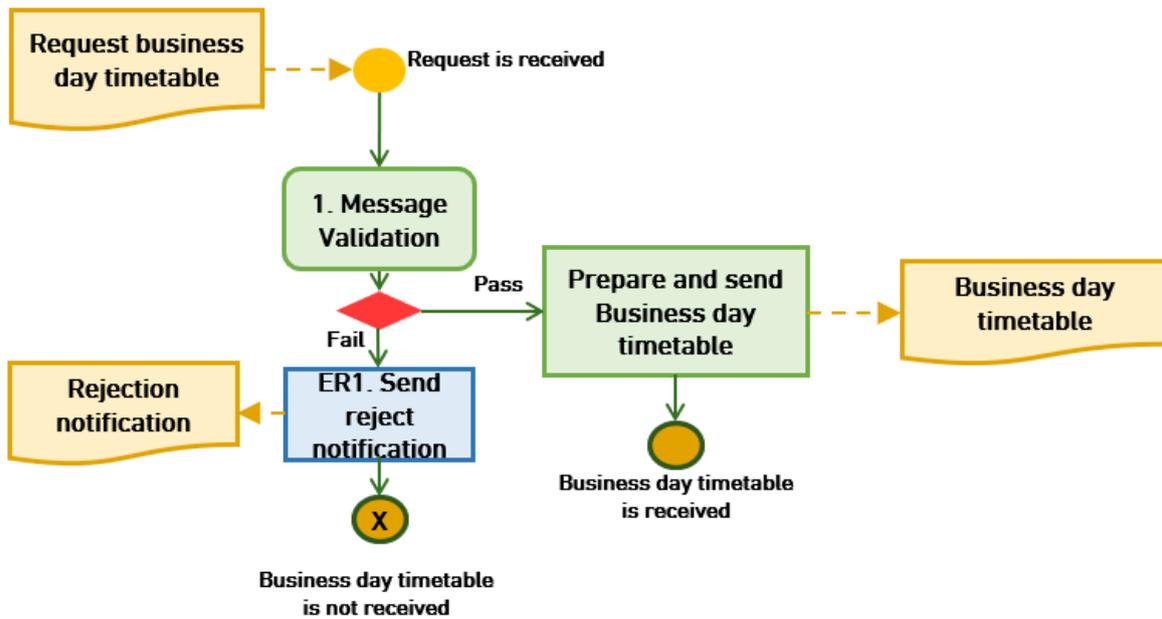


Figure 35: Request and receive business day timetable

Use Case ID	NPM-05
Use Case Name	Request and receive a business day timetable
Use Case Description	Request and receive a business day timetable
Primary Actors	Buna, BP, FHI, CEB
Trigger Event	A Request for a business day timetable was received from BP/ FHI/ CEB (MT999/GSCD == camt.018: Requesting business day timetable)
Use Case Business Rules	
Participant can request actual timetable for the current Business day	
Pre-Conditions	
N/A	
Post Conditions	
Timetable is distributed to the sender of the request	
Basic Flow	
1	Execute UC029 Non-Payment message validation (Alternative flow description can be checked under UC029)
2	Buna generates a timetable and sends it to the sender of the request
3	Timetable is received by participants /FHIs (camt.019 == MT999)
Alternate Flows	
	N/A
Exceptions	
	N/A

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/GSCD	camt.018	Request for the business day timetable

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/SCDW	camt.019	Timetable
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/ERRC	camt.025	Error message.
Buna Participants, FHIs, CEBs, Correspondent Banks	MT996/RJCT	admi.002	Rejection message.

6.5.6 Use Case NPM-06 - Change Participant Status Upon CEB's Request

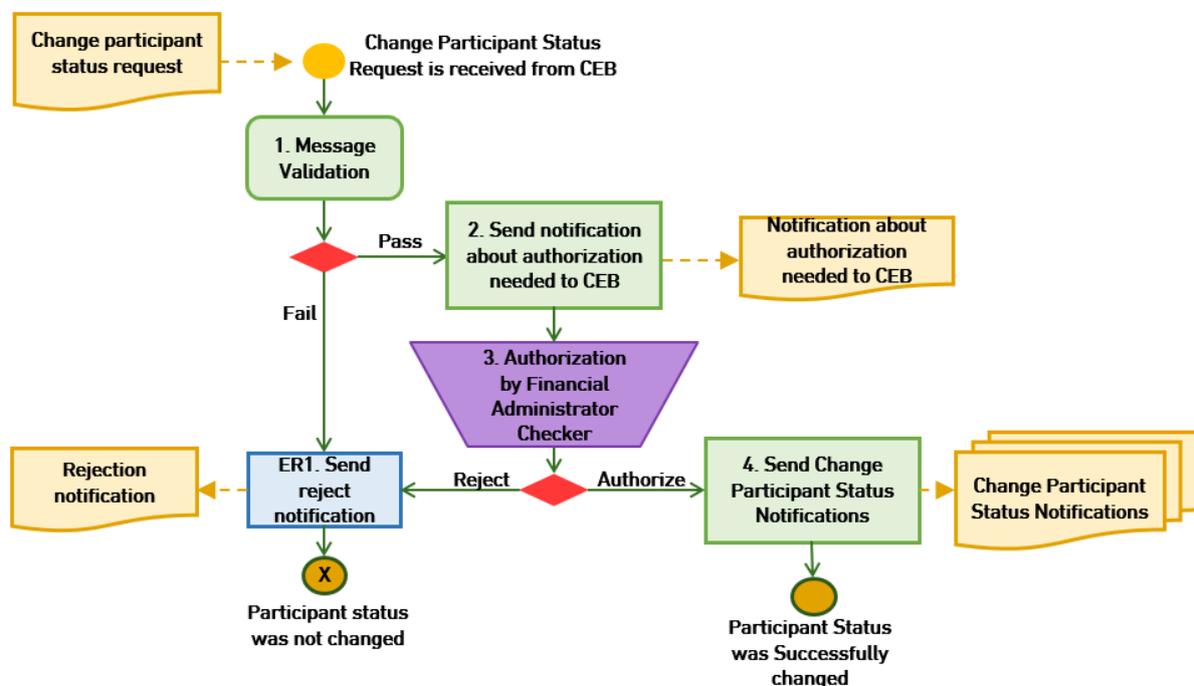


Figure 36: Change participant status upon CEB's request

Use Case ID	NPM-06
Use Case Name	Change participant's status upon CEB's request
Use Case Description	Change participant's status based on a request from Central Banks
Primary Actors (Sender)	CEB, Buna
Trigger Event	A change participant's status request message is received from the CEB (MT999/MPST == camt.998/changeParticStatus)
Use Case Business Rules	
<ul style="list-style-type: none"> • The sender of the change participant request must be the CEB of the Participant's country • During the defunding procedure money will be defunded normally for suspended participants. • Queued payments will be moved to «Suspended (Inactive)» Status and rejected according to the settings 6.2.5 Use Case QUE-05: Manage Payments at EOD • Inactive status is a final block of the Participant. Central bank cannot change the status of the Inactive Participant. • Buna Financial Administrator Checker approves the request 	
Pre-Conditions	
N/A	
Post Conditions	
The Participant's status was changed	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. There is an additional business validation for a lock account request: <ol style="list-style-type: none"> 1. The sender of the change participant request must be the CEB of the Participant's country If the validation fails, then go to ER1
2	Buna system sends notification about authorization needed to CEB (MT996 ≡ camt.025)
3	Buna Financial Administrator Checker approves CEB's request. In case of rejection go to ER1.

4	Buna changes the participant's status and sends a notification to the users of active and suspended participants(MT999/PSTS ≡ camt.998/participantStsRep)
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (CEB) (MT996/ERRC == camt.025)/admi.002

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs	MT999/MPST	camt.998/changeParticStatus	Change participant status request

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs, Participants, Buna	MT999/PSTS	camt.998/ participantStsRep	Change participant status notification.
CEBs	MT996	camt.025	Notification about authorization needed
CEBs	MT996/ERRC	camt.025	Error message.
CEBs	MT996/RJCT	admi.002	Rejection message.

6.5.7 Use Case NPM-07- Change Participant Status by Buna Financial Administrator

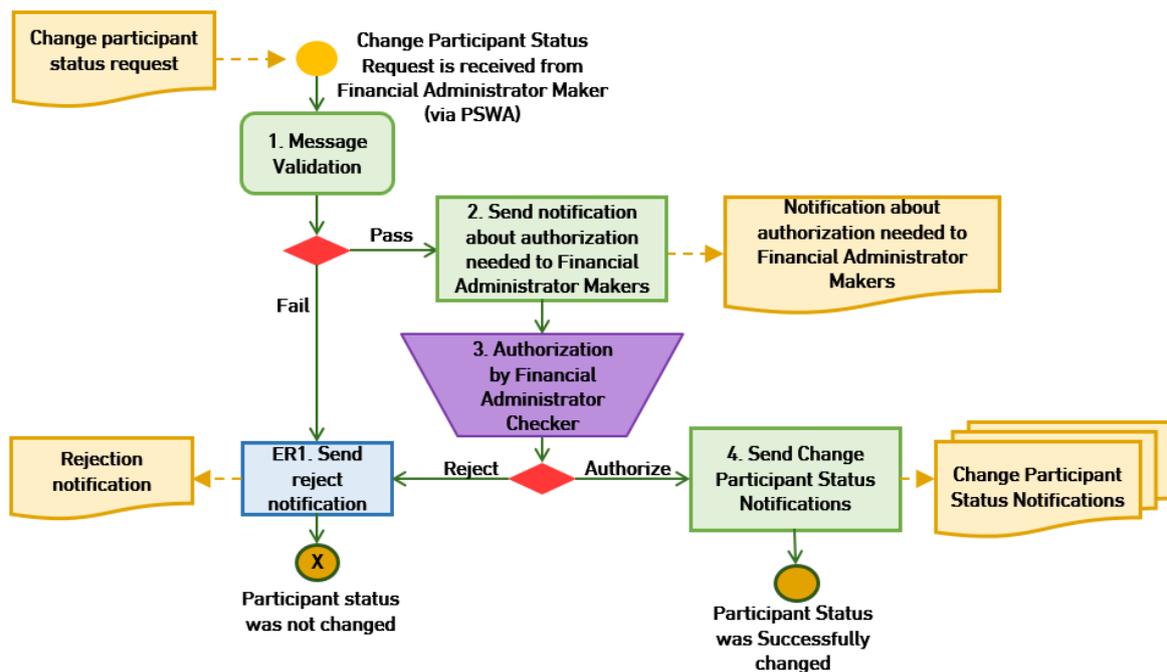


Figure 37: Change participant status by Buna Financial administrator

Use Case ID	NPM-07
Use Case Name	Change a participant’s status by a Buna Financial administrator
Use Case Description	Change a participant’s status by a Buna Financial administrator
Primary Actors (Sender)	Buna Financial Administrators
Trigger Event	The Buna Financial Administrator Maker sends a request to Change the status of a Participant via PSWA
Use Case Business Rules	
<ul style="list-style-type: none"> • During the defunding procedure money will be defunded normally for suspended participants. • Queued payments will be moved to «Suspended (Inactive)» Status and rejected according to the settings 6.2.5 Use Case QUE-05: Manage Payments at EOD • Buna Financial Administrator can Suspend FHI. • Suspended FHI cannot send transactions, only receive. Withdrawal and defunding are possible for suspended FHI. • Inactive status is a final block of the Participant. Financial Administrator cannot change the status of the Inactive Participant. 	

<ul style="list-style-type: none"> Buna Financial Administrator Checker approves the request 	
Pre-Conditions	
N/A	
Post Conditions	
Participant status was changed	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. If the validation fails, then go to ER1
2	Buna system sends notification about authorization needed to Buna Financial Administrator Maker (camt.025)
3	Buna Financial Administrator Checker approves Maker's request. In case of rejection go to ER1.
4	Buna changes the participant's status and sends a notification to the users of active and suspended participants (MT999/PSTS ≡ camt.998/participantStsRep)
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (Buna Financial AdministratorMakers) (MT996/ERRC == camt.025)

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs, Participants, Buna	MT999/PSTS	camt.998/ participantStsRep	Change participant status notification
Buna Financial Administrator Makers	MT996	camt.025	Notification about authorization needed
Buna Financial Administrator Makers	MT996/ERRC	camt.025	Error message.

6.5.8 Use Case NPM-08 – Request and Receive Actual Calendar

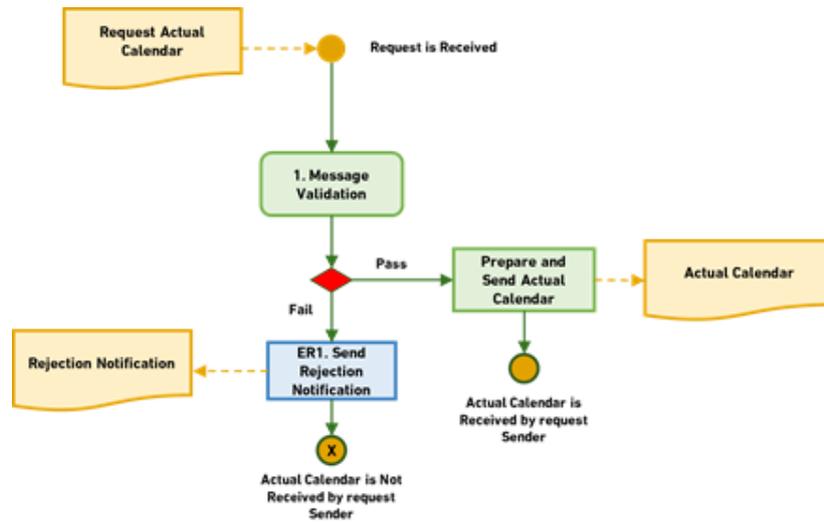


Figure 38: Request and receive actual calendar

Use Case ID	NPM-08
Use Case Name	Request and receive an actual calendar
Use Case Description	Receive the actual calendar when requested by the Participant
Primary Actors	BPs (Buna Participants), CEB, FHI
Trigger Event	MT999/GCLD == reda.064: A Calendar message was received
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
The Actual calendar has been received by the participant	
Basic Flow	
1	Buna generates the actual calendar message MT999/CLDR == reda.065: Return Calendar and sends it to the participant
2	The Actual calendar is received by the participant

Alternate Flows	
	N/A
Exceptions	
	N/A

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Buna Participants, FHIs, CEBs, Correspondent Banks	MT999/GCLD	reda.064	Requesting system calendar

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
BPs, FHIs, CEBs	MT999/CLDR	reda.065	System calendar
BPs, FHIs, CEBs	MT996/ERRC	camt.025	Error message
BPs, FHIs, CEBs	MT996/RJCT	admi.002	Rejection message

6.5.9 Use Case NPM - 09- Lock Account Upon CEB's Request

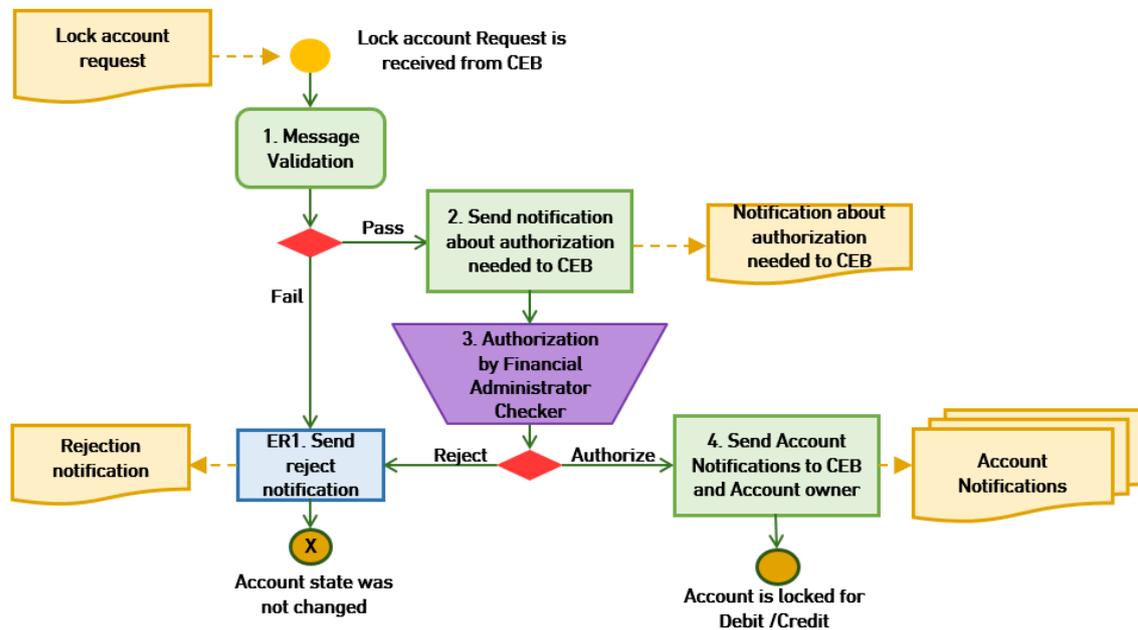


Figure 39: Lock account upon CEB's request

Use Case ID	NPM-09
Use Case Name	Lock an account upon the CEB's request
Use Case Description	Lock an account for debit or credit or both upon CEB's request
Primary Actors (Sender)	CEB, Buna
Trigger Event	A Lock account request is received from the CEB(MT999/LCKA == camt.998/lock Account)
Use Case Business Rules	
<ul style="list-style-type: none"> • The sender of the lock account request must be the CEB of the Participant's country • Buna Financial Administrator Checker approves the request 	
Pre-Conditions	
N/A	
Post Conditions	

Account was locked	
Basic Flow	
1	Execute use case UC029: Non-payment message validation. There is an additional business validation for a lock account request: 1. The sender of the change participant request must be the CEB of the Participant's country If validation fails, then go to ER1
2	Buna system sends notification about authorization needed to CEB (MT996 == camt.025)
3	Buna Financial Administrator Checker approves CEB's request. In case of rejection go to ER1.
4	Buna locks the account for debit or credit or both and sends a notification to the CEB (MT999/ ACST == camt.052/ACST: Account status) and account owner (MT999/LCKA == camt.998/lock Account)
Alternate Flows	
	N/A
Exceptions	
	ER: Validation failed
ER1	Buna sends a reject message to the Sender of the request (CEB) (MT996 == camt.025)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs	MT999/LCKA	camt.998/lock Account	Locking account

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs	MT999/ ACST	camt.052/ ACST	Account status
CEBs	MT996/ERRC	camt.025	Error message
CEBs	MT996/RJCT	admi.002	Rejection message
Participant	MT999/LCKA	camt.998/lock Account	Locking account

CEBs	MT996	camt.025	Notification about
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			authorization needed
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6.5.10 Use Case NPM-10- Lock Account Upon Buna Financial Administrator Request

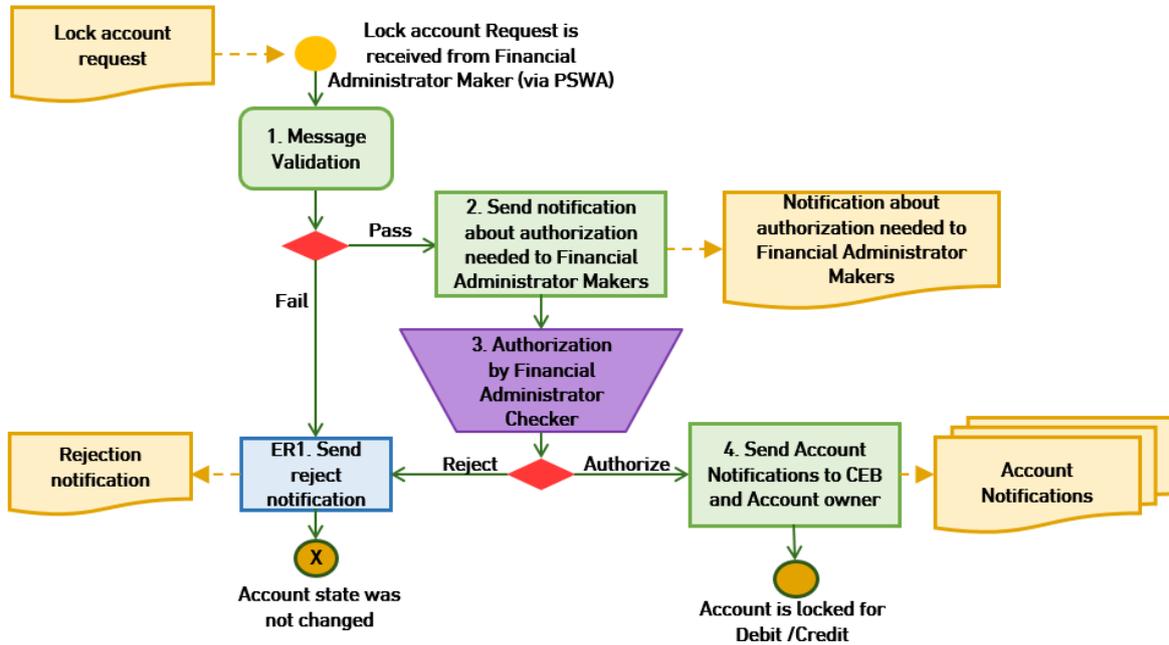


Figure 40: Lock account upon Buna Financial Administrator request

Use Case ID	NPM-10
Use Case Name	Lock an account upon Buna Financial Administrator request
Use Case Description	Lock account for debit or credit or both following a Buna Financial Administrator request
Primary Actors (Sender)	Buna
Trigger Event	The Buna Financial Administrator sent a request to Lock an account
Use Case Business Rules	
Buna Financial Administrator Checker approves the request	
Pre-Conditions	
N/A	
Post Conditions	

Account was locked	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. If the validation fails, then go to ER1
2	Buna system sends notification about authorization needed to Buna Financial Administrator Maker (camt.025)
3	Buna Financial Administrator Checker approves Maker's request. In case of rejection go to ER1.
4	Buna locks an account for debit or credit or both and sends a notification to Financial Administrator (MT999/ ACST == camt.052/ ACST: Account status) and account owner (MT999/LCKA == camt.998/lock Account)
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (Buna Financial AdministratorMakers) (MT996/ERRC == camt.025)

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 2002 EQUIVALENT	DESCRIPTION
Financial administrator	MT999/ ACST	camt.052/ ACST	Account status
Participant	MT999/LCKA	camt.998/lock Account	Locking account
Buna Financial Administrator Makers	MT996	camt.025	Notification about authorization needed
Buna Financial Administrator Makers	MT996/ERRC	camt.025	Error message

6.5.11 Use Case NPM-11- Unlock Account Upon CEB's Request

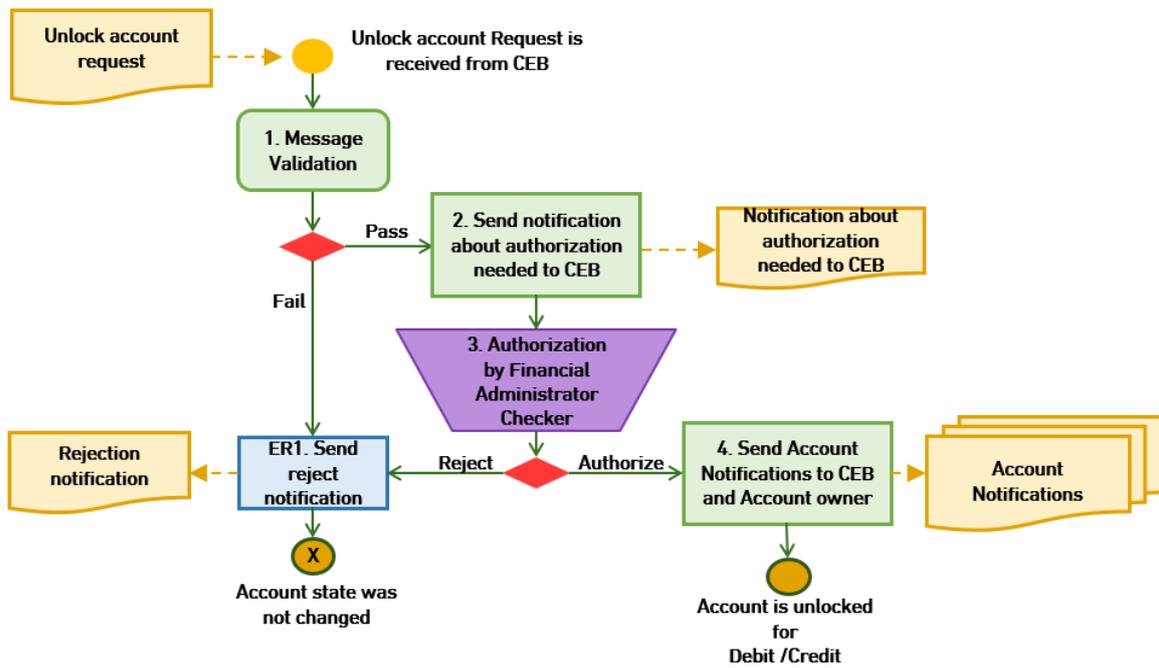


Figure 41: Unlock account upon CEB's request

Use Case ID	NPM-11
Use Case Name	Unlock an account upon CEB's request
Use Case Description	Unlock an account for debit or credit or both following a CEB's request
Primary Actors (Sender)	CEB, Buna
Trigger Event	An Unlock an account request is received from the CEB (MT999/ULKA == camt.998/unlock Account)
Use Case Business Rules	
<ul style="list-style-type: none"> • The sender of the unlock account request must be the CEB of the Participant's country • Buna Financial Administrator Checker approves the request 	
Pre-Conditions	
N/A	
Post Conditions	
Account was unlocked	
Basic Flow	
1	Execute use case UC029: Non-payment message validation. Additional business validation for the unlock account request: 1. The sender of the change participant request has to be the CEB of the Participant's country If validation fails, go to ER1
2	Buna system sends notification about authorization needed to CEB (MT996 ≡ camt.025)
3	Buna Financial Administrator Checker approves CEB's request. In case of rejection go to ER1.
4	Buna unlocks the account for debit or credit or both and sends a notifications to the CEB (<i>MT999/ ACST == camt.052/ ACST: Account status</i>) and account owner (MT999/ULKA == camt.998/unlock Account)
Alternate Flows	
	N/A

Exceptions	
	ER: Validation failed
ER1	Buna sends a reject message to the Sender of the request (CEB) (MT996 == camt.025)

Incoming messages

SENDERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs	MT999/ULKA	camt.998/ unlock Account	Unlocking account

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
CEBs	MT999/ ACST	camt.052/ ACST	Account status
CEBs	MT996/ERRC	camt.025	Processing error
CEBs	MT996/RJCT	admi.002	Rejection message
Participant	MT999/ULKA	camt.998/unlock Account	Unlock account message
CEBs	MT996	camt.025	Notification about authorization needed

6.5.12 Use Case NPM-12- Unlock Account Upon Buna Financial Administrator Request

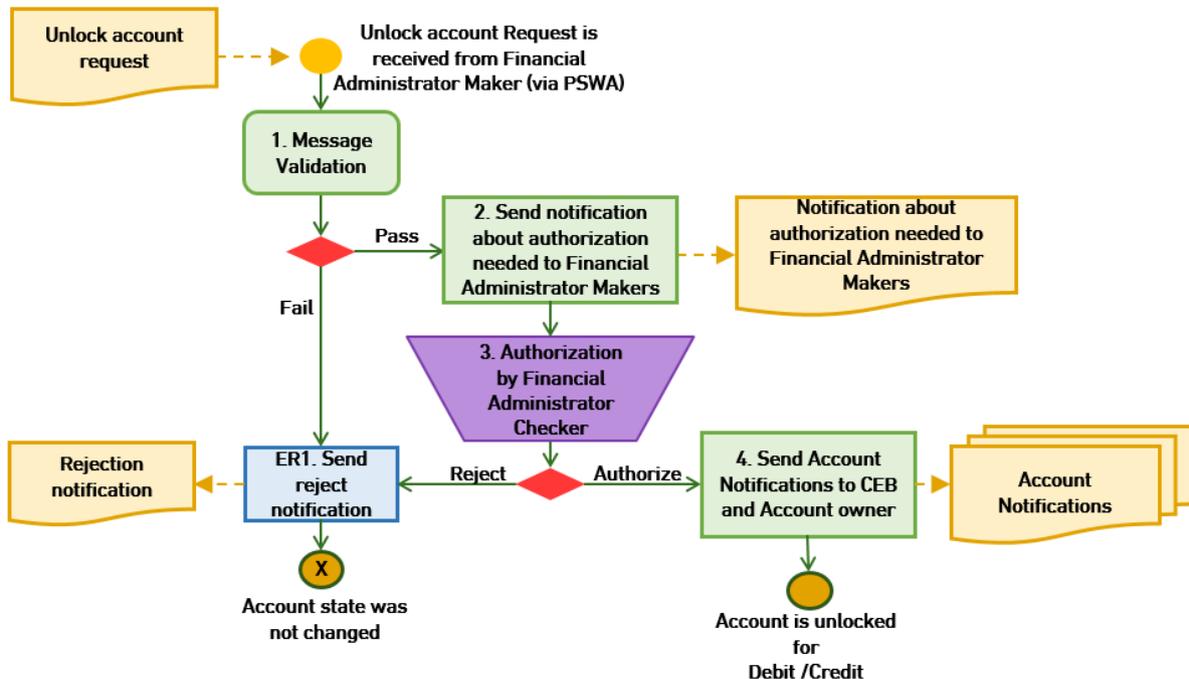


Figure 42 Unlock account upon Buna Financial Administrator request

Use Case ID	NPM-12
Use Case Name	Unlock an account following a Buna Financial Administrator request
Use Case Description	Unlock an account for debit or credit or both following a Buna Financial Administrator request
Primary Actors (Sender)	Buna
Trigger Event	A Buna Financial Administrator sent a request for Unlocking an account
Use Case Business Rules	
Buna Financial Administrator Checker approves the request	
Pre-Conditions	
N/A	
Post Conditions	
Account was unlocked	
Basic Flow	
1	Execute use case NPM-01: Non-payment message validation. If the validation fails, then go to ER1
2	Buna system sends notification about authorization needed to Buna Financial Administrator Maker (camt.025)
3	Buna Financial Administrator Checker approves Maker's request. In case of rejection go to ER1.
4	Buna unlocks an account for debit or credit or both and sends a notification to Financial Administrator (MT999/ ACST == camt.052/ ACST: Account status) and account owner (MT999/ULKA == camt.998/unlock Account)
Alternate Flows	
	N/A
Exceptions	
	ER1: Validation failed or Buna Financial Administrator checker declines the request
ER1	Buna sends a reject message to the Sender of the request (Buna Financial AdministratorMakers) (camt.025)

Outgoing messages

RECEIVERS	MT FIN MESSAGE	MX ISO 20022 EQUIVALENT	DESCRIPTION
Financial administrator	MT999/ ACST	camt.052/ ACST	Account status
Participant	MT999/ULKA	camt.998/unlock Account	Unlock account message
Buna Financial Administrator Makers	MT996	camt.025	Notification about authorization needed
Buna Financial Administrator Makers	MT996/ERRC	camt.025	Error message

6.5.13 Use Case NPM-13- Suspend currency Upon Buna Database Administrator Request

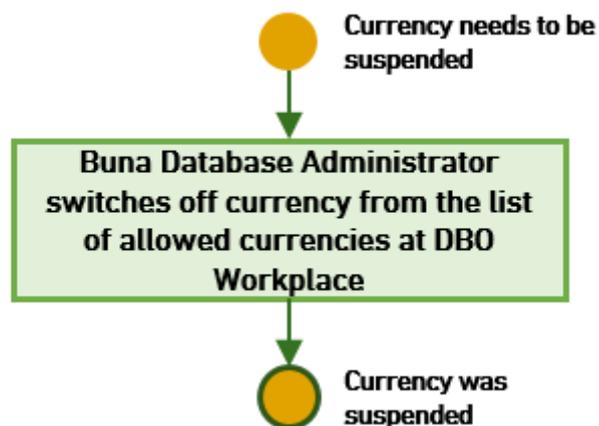


Figure 43 Suspend currency Upon Buna Database Administrator Request

Use Case ID	NPM-13
Use Case Name	Currency suspension
Use Case Description	Currency suspension
Primary Actors (Sender)	Buna
Trigger Event	A Buna Database Administrator removes currency from the list of allowed currencies at DBO Access Rights ARM for all the roles/participants with unique roles that cannot use this currency
Use Case Business Rules	
Participants linked to roles/participants with unique roles for whom this currency was switched off will be not allowed to send payments in this currency (payments will be rejected)	
Pre-Conditions	
N/A	
Post Conditions	
Currency was suspended	
Basic Flow	
1	Buna suspends currency

6.5.14 Use Case NPM-14 – Create new MP – LP link via Buna Portal

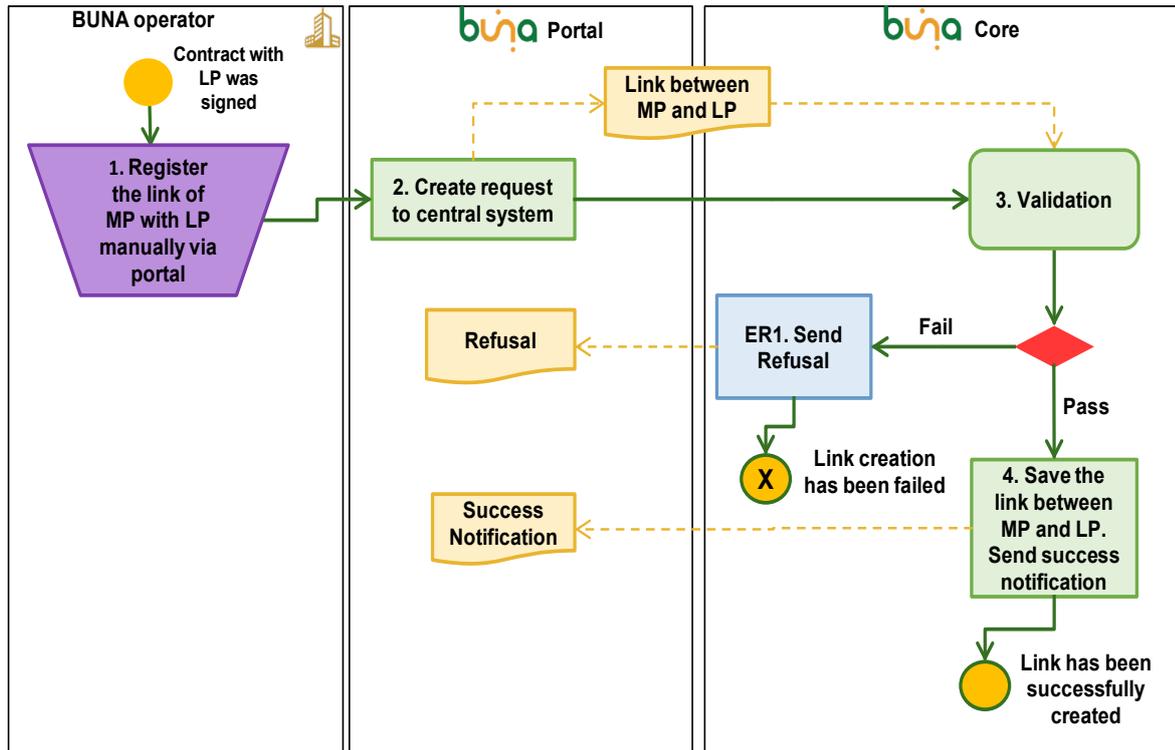


Figure 44: Create new MP – LP link via Buna Portal

Use Case ID	NPM-14
Use Case Name	Create a link of Master Participant with Linked Participant via Buna Portal
Use Case Description	BUNA operator creates a link with its Linked Participant via Buna Portal GUI
Primary Actors (Sender)	BUNA operator
Trigger Event	On filling the «Links with Linked Participants» form of Buna Portal by BUNA operator Maker
Use Case Business Rules	
<p>BUNA operator can link Master Participant with Linked Participant registered before by Buna operator via DBO Workplace in Buna core database.</p> <p>To do it MP selects LP from the list of pre-registered LPs, available within the Participant Portal.</p> <p>A new link between MP and LP is created with the following default list of the link attributes:</p> <ul style="list-style-type: none"> • Link status ('active' status assigned by default) • MP BIC 	

<ul style="list-style-type: none"> • LP BIC • Currency <p>Assumption: generic link status naming used within this document, all appropriate link statuses will be specified during solution development stage.</p>	
Pre-Conditions	
<p>Master Participant and Linked Participant are registered in Buna core database and assigned with 'active' or 'suspended' status.</p> <p>Specified LP not linked with specified MP.</p>	
Post Conditions	
Link between MP and LP was successfully registered in Buna core database	
Basic Flow	
1	<p>BUNA operator maker creates a link between MP and LP.</p> <p>Checker approves sending link details to Buna core.</p>
2	Buna Portal creates and sends request to Buna core
3	<p>Validation:</p> <ul style="list-style-type: none"> • whether Master Participant and Linked Participant are active or suspended in Buna core database, • If link with specified parameters (MP+LP+CURRENCY) already exist, • If LP already linked with another MP. <p>Success – go to 4</p> <p>Fail (inactive status) – go to ER1</p>
4	Buna core saves the link to the database, creates and sends success notification to Buna Portal.
Alternate Flows	
	N/A
Exceptions	
ER1	Send reject notification to Buna Portal

6.5.15 Use Case NPM-15 – Modify of the MP – LP link via Buna Portal

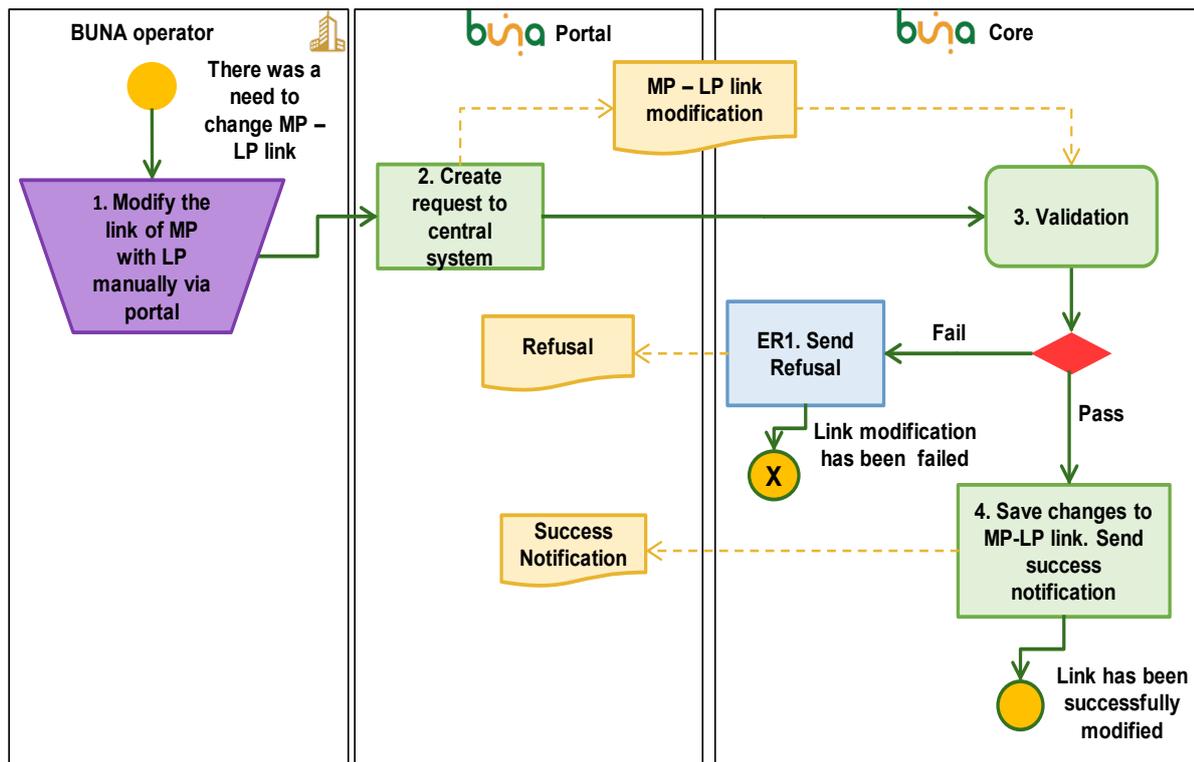


Figure 45: Modification of the MP – LP link via Buna Portal

Use Case ID	NPM-15
Use Case Name	Modify the link of Master Participant with Linked Participant via Buna Portal
Use Case Description	BUNA operator modifies the link with its Linked Participant via Buna Portal
Primary Actors (Sender)	BUNA operator
Trigger Event	On changing the «Links with Linked Participants» form of Buna Portal by BUNA operator Maker
Use Case Business Rules	
Only transactions with active link status can be processed by RTGS	
Pre-Conditions	
Link between MP and LP is active or suspended in database	
Post Conditions	

Link between MP and LP was successfully modified in Buna core database	
Basic Flow	
1	<p>BUNA operator Maker modifies the link between MP and LP.</p> <p>Checker approves sending link details to Buna core.</p> <p>The following LP attributes can be modified by MP for the MP - LP link:</p> <ul style="list-style-type: none"> • Link status: <ul style="list-style-type: none"> ○ activated link can be deactivated with temporary suspended/blocked status ○ activated link can be deactivated with permanent suspended/blocked status ○ temporary deactivated link can be activated • Master participant <ul style="list-style-type: none"> ○ If link with specified parameters (MP+LP+CURRENCY) already exist, such link can not be modified. ○ If specified LP on form already linked with another MP, such link can not be modified. • Linked participant <ul style="list-style-type: none"> ○ If link with specified parameters (MP+LP+CURRENCY) already exist, such link can not be modified. ○ If specified LP already linked with another MP, such link can not be modified. <p>Assumption: newly modified MP-LP link attributes' values stored inside Buna core database without any further processing and analysis inside BUNA system, e.g. the link attributes' values are stored in Buna core database for MP preview and information only.</p>
2	Buna Portal creates and sends request to Buna core
3	<p>Validation:</p> <ul style="list-style-type: none"> • whether link exist, • If link with specified parameters (MP+LP+CURRENCY) already exist, • If LP already linked with another MP. <p>Success – go to 4</p> <p>Fail – go to ER1</p>
4	Buna core saves changes to database, creates and sends success notification to Buna Portal.
Alternate Flows	
	N/A
Exceptions	
ER1	Send reject notification to Buna Portal

6.5.16 Use Case NPM-16 – Remove of the MP – LP link via Buna Portal

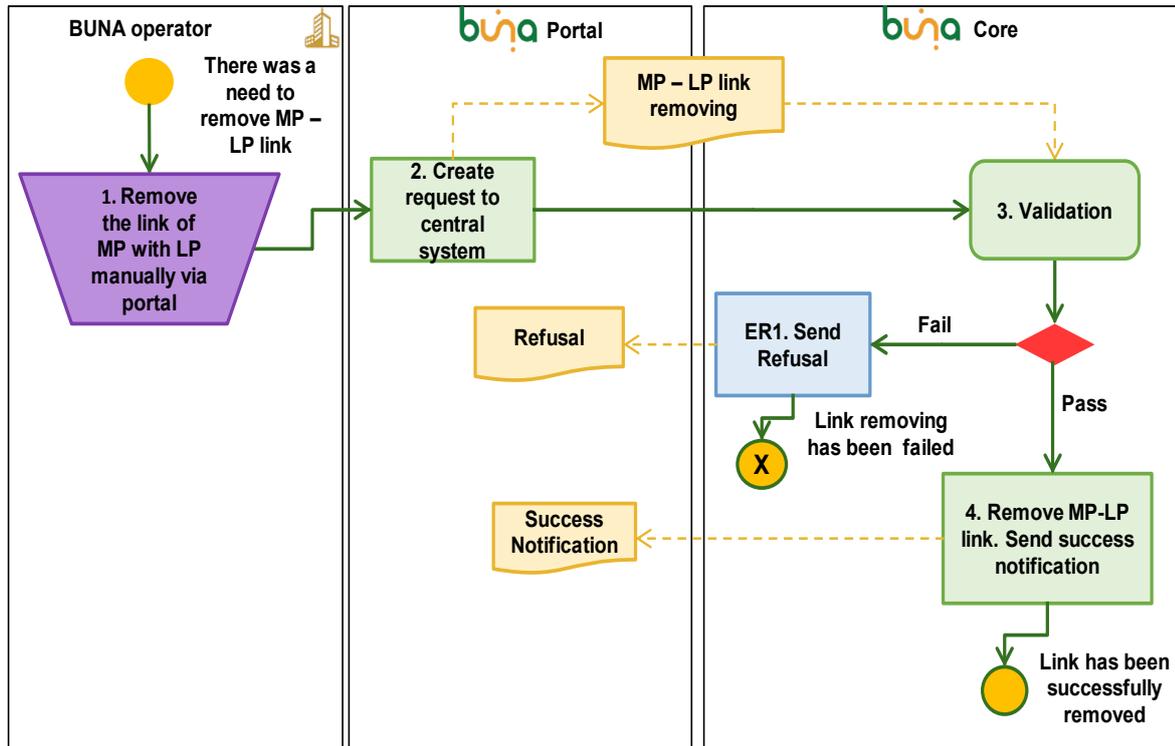


Figure 46: Modification of the MP – LP link via Buna Portal

Use Case ID	NPM-15
Use Case Name	Remove the link of Master Participant with Linked Participant via Buna Portal
Use Case Description	BUNA operator removes the link between Master and its Linked Participant via Buna Portal
Primary Actors (Sender)	BUNA operator
Trigger Event	On changing the «Links with Linked Participants» form of Buna Portal by BUNA operator Maker
Use Case Business Rules	
Only transactions with active link status can be processed by RTGS	
Pre-Conditions	
Link between MP and LP is active or suspended in database	
Post Conditions	

Link between MP and LP was successfully removed in Buna core database	
Basic Flow	
1	BUNA operator Maker removing the link between MP and LP. Checker approves sending request details to Buna core.
2	Buna Portal creates and sends request to Buna core
3	Validation whether link exist Success – go to 4 Fail – go to ER1
4	Buna core saves changes to database, creates and sends success notification to Buna Portal.
Alternate Flows	
	N/A
Exceptions	
ER1	Send reject notification to Buna Portal

6.6 BILLING USE CASES

6.6.1 Use Case BILL-01 – Receive Invoices on A Periodic Basis

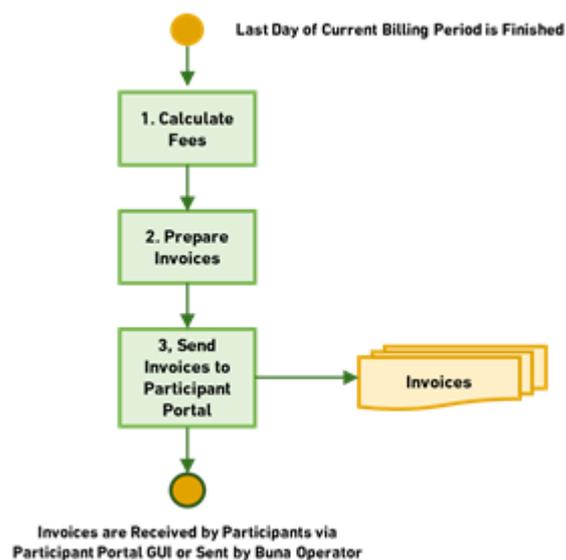


Figure 47: Receive Invoices on a periodic basis

Use Case ID	BILL-01
Use Case Name	Receive Invoices on a periodic basis
Use Case Description	Receive invoices, generated by Buna at a pre-set time
Primary Actors	Buna, Buna Participant
Trigger Event	The last business day of the current billing period was finished
Use Case Business Rules	
N/A	
Pre-Conditions	
N/A	
Post Conditions	
Invoices are received by participants	
Basic Flow	
1	Buna calculates the charges
2	Buna generates the invoices
3	Buna sends the invoices to the Participant's Portal
4	The Buna Participant receives the invoice via their Participants Portal GUI
Alternate Flows	
1	A Buna Operator can download the invoices for all participants and send them without using the system
Exceptions	
	N/A

6.6.2 Use Case BILL-02 - Request for payment of charges processing

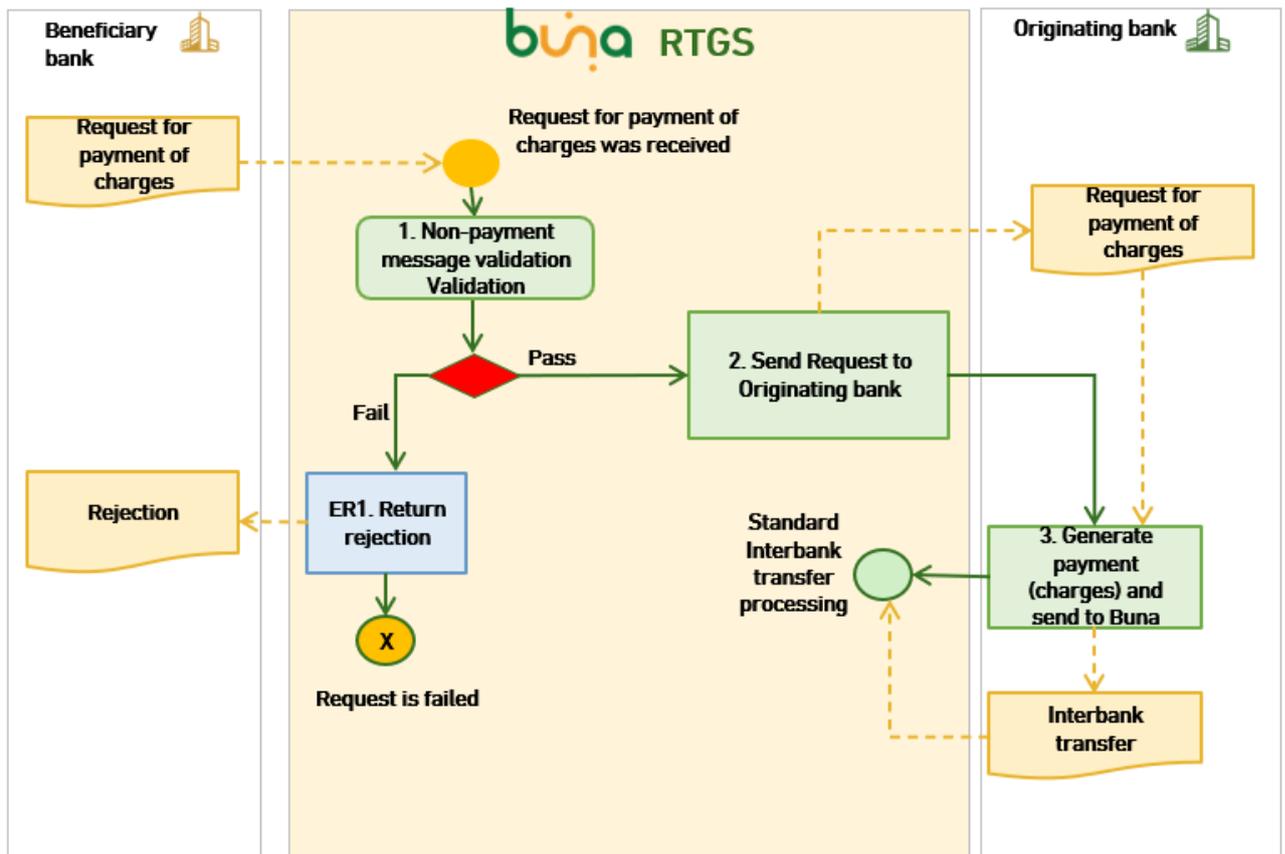


Figure 48: Request for payment of charges processing

Use Case ID	NPM-14
Use Case Name	Request for payment of charges processing
Use Case Description	Request for payment of charges from one participant to another
Primary Actors	Buna Participants
Trigger Event	Request for payment of charges charges (MT191 == camt.998) was received from Participant
Use Case Business Rules	
<ul style="list-style-type: none"> – If market participants do not wish to disclose their bank charges, they can still adopt the Request for payment of charges approach which will also be facilitated through the platform through the MT 191 / camt.998 message type (refer to section Ошибка! Источник ссылки не найден. for MT191/camt.998 message formats and mapping details). – Buna does not match further payment (charges) (MT202 ==pacs.009) with MT191 message, and does not check whether MT191/camt.998 was paid or not. 	

Pre-Conditions	
N/A	
Post Conditions	
Beneficiary bank received requested charges payment	
Basic Flow	
1	Buna RTGS validates the incoming request (MT191/camt.998): Body field values corresponds to required formats and value ranges. If validation fails, go to ER1
2	Buna RTGS sends Request for payment of charges (MT191 = = camt.998) to Originating bank.
3	Originating bank sends payment (charges) (MT202 ==pacs.009) to Buna for Beneficiary bank of original payment (processed as normal interbank transfer).
Alternate Flows	
N/A	
Exceptions	
ER1	Participant's application receives an error code with description.

6.7 COMMUNICATION AND INQUIRY USE CASES

6.7.1 Use Case COM-01 – Buna Participant – Buna Participant Process Inquiry

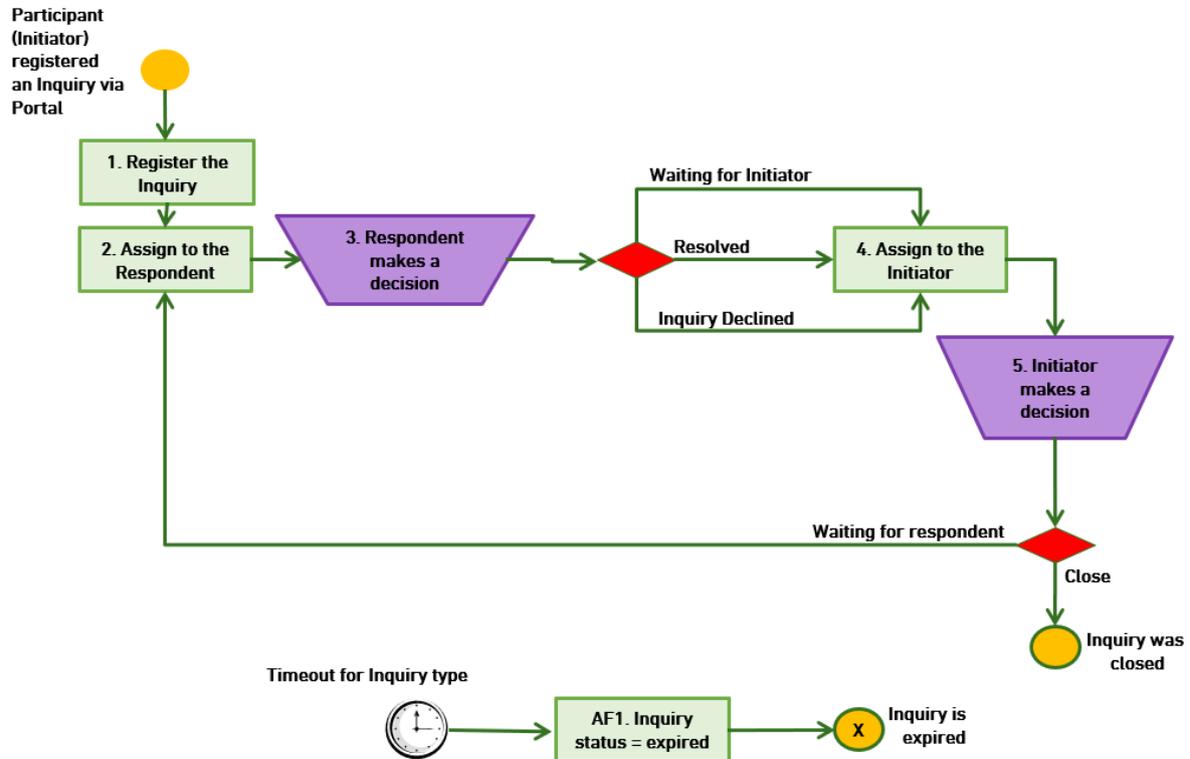


Figure 49: Process Inquiry between BP and BP

Use Case ID	COM-01
Use Case Name	Buna Participant – Buna Participant Process Inquiry
Use Case Description	Process Inquiry between BP and BP via the Communication and Inquiry Management Module
Primary Actors	Buna Participants
Trigger Event	Participant registers an Inquiry through the Participant Portal in maker/checker mode. Inquiry is finally registered and appears on monitoring view only after approval from the checker.
Use Case Business Rules	
Arbitration process is not included	
Pre-Conditions	

Payment was sent to Buna	
Post Conditions	
Inquiry is closed	
Basic Flow	
1	Buna registers an Inquiry
2	Buna assigns the Inquiry to the Respondent (appropriate party)
3	Respondent chooses an action: <ul style="list-style-type: none"> 1) To change status to «Waiting for Initiator» 2) To change status to «Inquiry declined» 3) To change status to «Resolved»
4	Buna assigns the Inquiry to the Initiator
5	Initiator chooses an action: <ul style="list-style-type: none"> 1) To change status to «Waiting for respondent» - go to 2 2) To change status to «Close» - end of process
Alternate Flows	
AF1.1	When expiration date is effective then Inquiries in non-final statuses receive status «Expired»

6.7.2 Use Case COM-02 – Compliance officer - BP Process Inquiry

As a result of changes described within current CR document, Use Case 'UC041a' will be added as shown on the diagram below and described subsequently.

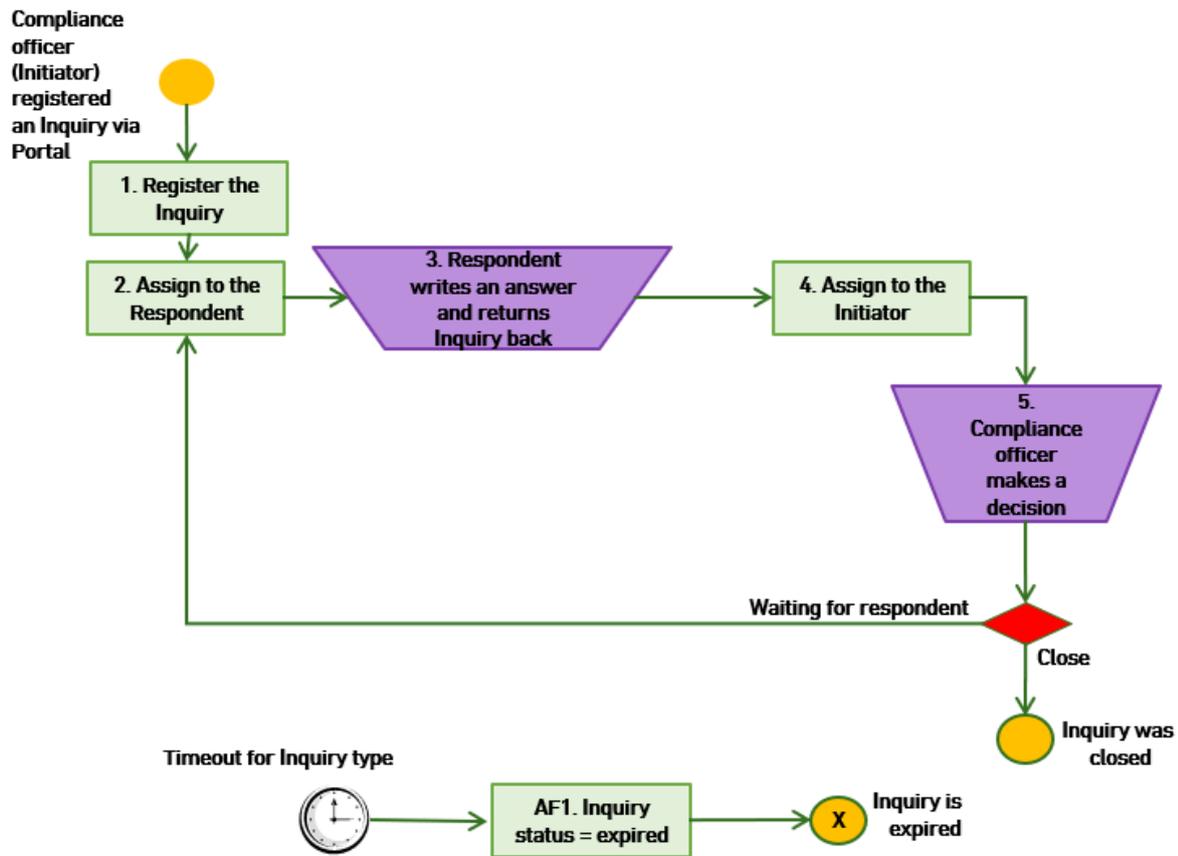


Figure 50: Process Inquiry between BP and BP

Use Case ID	COM-02
Use Case Name	Compliance officer - BP Process Inquiry
Use Case Description	Process Inquiry between Compliance officer and BP via the Communication and Inquiry Management Module
Primary Actors	Buna Participants, Buna compliance officers
Trigger Event	Compliance officer registers an Inquiry through the Participant Portal in maker/checker mode. Inquiry is finally registered and appears on monitoring view only after approval from the checker.
Use Case Business Rules	
Arbitration process is not included	
Pre-Conditions	
Payment was sent to Buna	
Post Conditions	

Inquiry is closed	
Basic Flow	
1	Buna registers an Inquiry
2	Buna assigns the Inquiry to the Respondent (appropriate party)
3	Respondent captures an answer and changes the status to WAITING FOR COMPLIANCE in Maker/checker mode
4	Buna assigns the Inquiry to the Compliance officer
5	Compliance officer chooses an action: <ul style="list-style-type: none"> 1) To change status to «Waiting for respondent» - go to 2 2) To change status to «Close» - end of process
Alternate Flows	
	N/A

6.8 PRE-VALIDATION AND CONSULTATION SERVICE USE CASES

6.8.1 Use Case CONS-01: Request exchange rate from the FX Provider

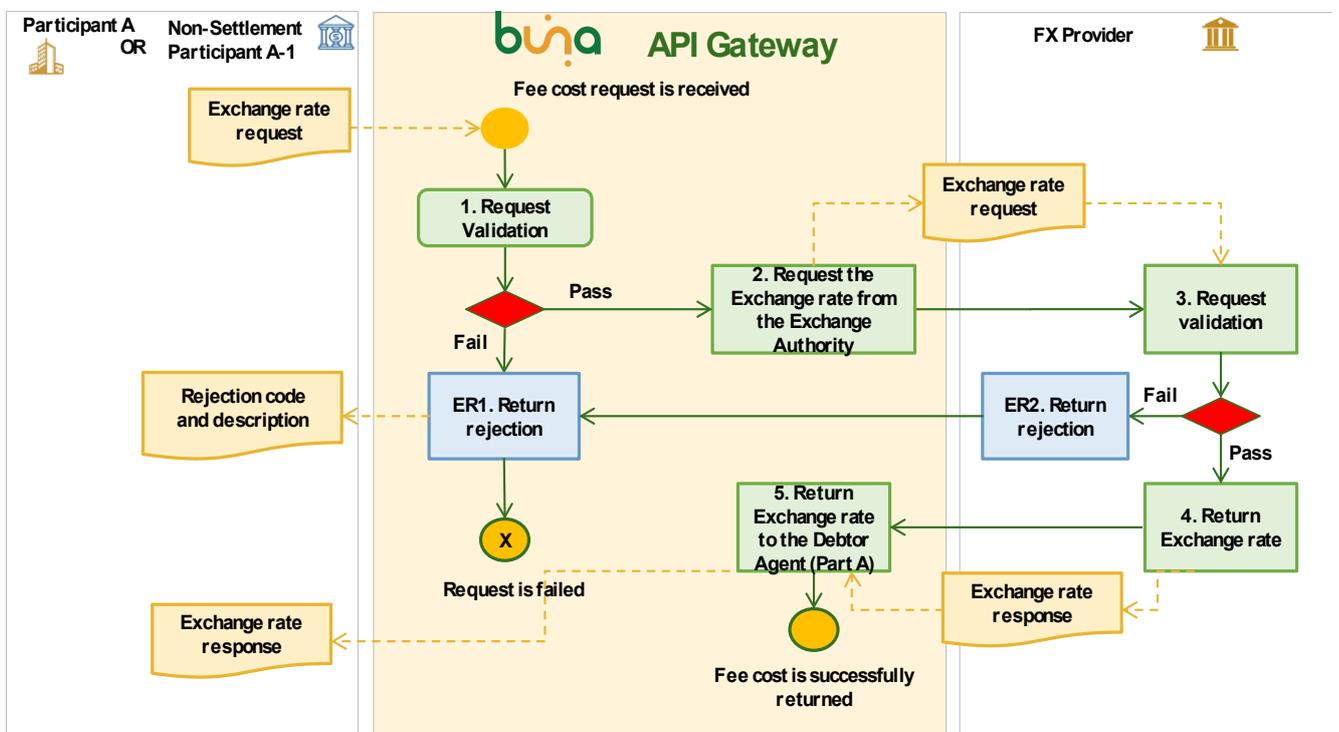


Figure 51: Request exchange rate from the FX Provider

Use Case ID	CONS-01	
Use Case Name	Request exchange rate from the FX Provider	
Use Case Description	Requesting exchange rate and total amount in base/counter currency from the FX Provider	
Primary Actors	Participant's application	
Trigger Event	"Request counter currency amount" or "Request base currency amount" method is called by the participant's application	
Use Case Business Rules		
<p>For the currency exchange Buna Participant can ask for rates from different FX providers to provide competitive rate for its client using «Get exchange rate» method as a preliminary step.</p> <p>For the detailed information regarding Pre-validation and consultation API, kindly refer to the «Buna pre-validation and consultation service REST API specification»</p> <p>Request will be sent from the Bank's point of view. It means that base currency is a currency which Bank will buy, but FX Provider will sell. Counter currency in the request is a currency which Bank will sell and FX Provider will buy.</p>		
Pre-Conditions		
N/A		
Post Conditions		
Buna Participant received exchange rate information from API and provided it to the Client A.		
Basic Flow		
1	Validations for the request: <ol style="list-style-type: none"> 1. Body fields values corresponds to required formats and value ranges. If validation fails, go to ER1	
2	Buna API Gateway requests exchange rate and total amount in base/counter currency from the FX Provider	
3	The FX Provider validates the request If validation fails, go to ER2	
4	The FX Provider returns exchange rate and total amount in base/counter currency information	
5	Buna API Gateway returns exchange rate and total amount in base/counter currency information to the Buna Participant	
Alternate Flows		
	N/A	
Exceptions		

ER1	Participant's application receives an error code with description.
ER2	The FX Provider application returns Reject to Buna API Gateway. Go to ER1

7 MONITORING

7.1 DASHBOARDS

For monitoring purposes, there will be dashboards with real time metrics accessible through the Portal.

The Dashboard will show all the financial information for payments in the FHI's currency.

The dashboards will **contain**:

1. A quick statistics bar located at the top of the screen;
2. A main area with widgets.

The **quick statistics area** provides the most important and frequently used summary figures or metrics for the current business day (per FHI currency):

- Net position
- Number of messages
- Number of payments
- Sum of debit entries
- Sum of credit entries
- Number of debit entries
- Number of credit entries
- Number of payments in a queue

This area is preconfigured.

The **widget** is an area with visualization of aggregated data for analysis and monitoring purposes.

The Dashboard can have several widgets in the main area. The following widgets are available:

- Payment statistics
- Message statistics
- Minimum liquidity requirements calculations
- Funding and Defunding statistics

7.2 MONITORING FACILITIES SUMMARY BY ROLE

MONITORING AREA/ROLES	FHI	CEB	SYSTEM OPERATOR	BUNA PARTICIPANT	CORRESPONDENT BANK
Balances: <ul style="list-style-type: none"> • Account code 	For accounts linked to this FHI	All banks using its currency and all banks	All	Its own	

MONITORING AREA/ROLES	FHI	CEB	SYSTEM OPERATOR	BUNA PARTICIPANT	CORRESPONDENT BANK
<ul style="list-style-type: none"> • Account type • Currency • FHI • Opening balance • Available balance • Debit entries count • Credit entries count • Debit entries amount • Credit entries amount 		under their jurisdiction using different currencies			
<p>Payments (with statuses):</p> <ul style="list-style-type: none"> • Transaction ID • Message ID • Message type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • FHI • Priority • Value Date • Remittance info • Instrument • Status 	TBD	All banks using its currency and all banks under their jurisdiction using different currencies	All	Its own	

MONITORING AREA/ROLES	FHI	CEB	SYSTEM OPERATOR	BUNA PARTICIPANT	CORRESPONDENT BANK
Message audit (incoming and outgoing messages): <ul style="list-style-type: none"> • Message ID • Message type • Sender • Receiver • Date Time • Status 	Messages for funding and de-funding operations via this FHI	All banks using its currency and all banks under their jurisdiction using different currencies	All	Its own	
Participants: <ul style="list-style-type: none"> • BIC • Name • Address • Phone • Email • Postal address 	All	All	All	All	Of Correspondents
Participants' accounts <ul style="list-style-type: none"> • Code • Type • Correspondent • Currency • FHI • Correspondent BIC 	All	All	All	All	Of Correspondents
Account Limits <ul style="list-style-type: none"> • Account • Limit type • Participant • Amount • Currency • FHI 	Its own	All banks using its currency and all banks under their jurisdiction using different currencies	All	Its own	
Funding and de-funding	Operations via this FHI	All banks using its currency and all	All	Its own	Of Correspondents

MONITORING AREA/ROLES	FHI	CEB	SYSTEM OPERATOR	BUNA PARTICIPANT	CORRESPONDENT BANK
<p>operations (with statuses)</p> <ul style="list-style-type: none"> • Transaction ID • Transaction type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • Date • Status 		banks under their jurisdiction using different currencies			
<p>Business day schedule:</p> <ul style="list-style-type: none"> • FHI • Operation day Date • Period name • Period status • Start time (planned and actual) • Finish time (planned and actual) 	All FHIs	All FHIs	All FHIs	All FHIs	All FHIs
<p>Calendars:</p> <ul style="list-style-type: none"> • FHI • Currency • Date • Status (workday or not) 	All FHIs	All FHIs	All FHIs	All FHIs	All FHIs

MONITORING AREA/ROLES	FHI	CEB	SYSTEM OPERATOR	BUNA PARTICIPANT	CORRESPONDENT BANK
Tasks (alerts): <ul style="list-style-type: none"> • Description • Appropriate actions 	Its own	Its own	Its own	Its own	
Text messages: <ul style="list-style-type: none"> • Sender • Text 	One to many	One to many	One to many	One to one	

7.3 FHI MONITORING FACILITIES

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Balances	<ul style="list-style-type: none"> Account code Account type Currency Opening balance Available balance Number of Debit entries Number of Credit entries Sum of Debit entries Sum of Credit entries 	In owner's currency	Actual on-line information about balance of accounts linked to FHI
Message audit	<ul style="list-style-type: none"> Message ID Message type Sender Receiver Date Time Status 	Messages for funding and de-funding operations via this FHI	List of incoming and outgoing messages
Participants	<ul style="list-style-type: none"> BIC Name Address Phone Email Postal address 	All	List of all participants of the system
Participants' accounts	<ul style="list-style-type: none"> Code Type Correspondent Currency Correspondent BIC 	All	Overall information for accounts of all participants in the system
Daily Limits	<ul style="list-style-type: none"> Limit type Amount Currency 	Its own	There will be minimum limits for SOD funding for each FHI currency, liquidity intraday thresholds for each FHI currency (with the current amount of liquidity above this threshold for each participant in the area) and transaction limits.
Funding and de-funding operations (with statuses)	<ul style="list-style-type: none"> Transaction ID Transaction type Debit BIC Debtor Name Debit account Credit BIC 	Operations via this FHI	There will be a view for funding and de-funding operations (including intraday top-ups and withdrawals) related to the FHI.

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
	<ul style="list-style-type: none"> • Creditor name • Credit account • Amount • Currency • Date • Status 		
Business day schedule	<ul style="list-style-type: none"> • FHI • Business Day Date • Period name • Period status • Start time (planned and actual) • Finish time (planned and actual) 	All FHIs	There will be a separate Business day schedule for each FHI.
Calendars	<ul style="list-style-type: none"> • FHI • Currency • Date • Status (workday or not) 	All FHIs	There will be separate calendars for each FHI.
Tasks (alerts)	<ul style="list-style-type: none"> • Description • Appropriate actions <p>Alerts will be for:</p> <ul style="list-style-type: none"> • Fraud • AML • Liquidity • And other issues 	Its own	Users will receive important information via alerts called tasks in Buna.

Note: Monitoring will be via the Portal

7.4 CEBS MONITORING FACILITIES

CEBS MONITORING FACILITIES MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Balances	<ul style="list-style-type: none"> • Account code • Account type • Currency • FHI • Opening balance • Available balance • Number of Debit entries • Number of Credit entries • Sum of Debit entries 	All banks using its currency and all banks under their jurisdiction using different currencies.	Actual on-line information about the balance of accounts.

CEBS MONITORING FACILITIES MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
	<ul style="list-style-type: none"> Sum of Credit entries 		
Payments	<ul style="list-style-type: none"> Transaction ID Message ID Message type Debit BIC Debtor Name Debit account Credit BIC Creditor name Credit account Amount Currency FHI Priority Value Date Remittance info Instrument Status 	All banks using its currency and all banks under their jurisdiction using different currencies.	List of payments for the current day.
Message audit	<ul style="list-style-type: none"> Message ID Message type Sender Receiver Date Time Status 	All banks using its currency and all banks under their jurisdiction using different currencies.	List of incoming and outgoing messages.
Participants	<ul style="list-style-type: none"> BIC Name Address Phone Email Postal address 	All	List of all participants of the system.
Participants' accounts	<ul style="list-style-type: none"> Code Type Currency FHI Correspondent Currency Correspondent BIC 	All	Overall information of accounts for all participants in the system.
Daily Limits	<ul style="list-style-type: none"> Limit type 	All banks using its currency	There will be minimum limits for

CEBS MONITORING FACILITIES MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
	<ul style="list-style-type: none"> Amount 	and all banks under their jurisdiction using different currencies	SOD funding for each currency and FHI, liquidity intraday thresholds for each currency and FHI (with the current amount of liquidity above this threshold for each participant in the area), limit for a transaction.
Funding and de-funding operations (with statuses)	<ul style="list-style-type: none"> Transaction ID Transaction type Debit BIC Debtor Name Debit account Credit BIC Creditor name Credit account Amount Currency FHI Date Status 	All banks using its currency and all banks under their jurisdiction using different currencies	There will be a view for funding and de-funding operations (included intraday top-ups and withdrawals).
Business day schedule	<ul style="list-style-type: none"> Business Day Date Period name Period status Start time (planned and actual) Finish time (planned and actual) 	All FHIs	There will be a separate Business day schedule for each FHI.
Calendars	<ul style="list-style-type: none"> FHI Currency Date Status (workday or not) 	All FHIs	There will be separate calendars for each FHI.
Tasks (alerts)	<ul style="list-style-type: none"> Description Appropriate actions <p>Alerts will be for:</p> <ul style="list-style-type: none"> Fraud AML 	Its own	Users will receive important information via alerts called tasks in Buna

CEBS MONITORING FACILITIES MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
	<ul style="list-style-type: none"> • Liquidity • And other issues 		

Note: Monitoring will be via the Portal

7.5 SYSTEM OPERATOR MONITORING FACILITIES

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Balances	<ul style="list-style-type: none"> • Account code • Account type • Currency • FHI • Opening balance • Available balance • Number of Debit entries • Number of Credit entries • Sum of Debit entries • Sum of Credit entries 	All	Actual on-line information about balance of accounts
Payments	<ul style="list-style-type: none"> • Transaction ID • Message ID • Message type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • FHI • Priority • Value Date • Remittance info • Instrument • Status 	All	List of payments for the current day

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Message audit	<ul style="list-style-type: none"> • Message ID • Message type • Sender • Receiver • Date Time • Status 	All	List of incoming and outgoing messages
Participants	<ul style="list-style-type: none"> • BIC • Name • Address • Phone • Email • Postal address 	All	List of all participants of the system
Participants' accounts	<ul style="list-style-type: none"> • Code • Type • Correspondent • Currency • FHI • Correspondent BIC 	All	Overall information of accounts of all participants of the system
Daily Limits	<ul style="list-style-type: none"> • Limit type • Amount 	All	There will be minimum limits for SOD funding for each currency and FHI, liquidity intraday thresholds for each currency and FHI (with the current amount of liquidity above this threshold for each participant in the area), limit for transaction.
Funding and de-funding operations (with statuses)	<ul style="list-style-type: none"> • Transaction ID • Transaction type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • FHI • Date • Status 	All	There will be a view for funding and de-funding operations (included intraday top-ups and withdrawals)

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Business day schedule	<ul style="list-style-type: none"> • Business Day Date • Period name • Period status • Start time (planned and actual) • Finish time (planned and actual) 	All FHIs	There will be a separate Business day schedule for each FHI.
Calendars	<ul style="list-style-type: none"> • FHI • Currency • Date • Status (workday or not) 	All FHIs	There will be separate calendars for each FHI.
Tasks (alerts)	<ul style="list-style-type: none"> • Description • Appropriate actions <p>Alerts will be for:</p> <ul style="list-style-type: none"> • Fraud • AML • Liquidity • And other issues 	Its own	Users will receive important information via alerts called tasks in Buna

System operator will use Administrator Workstations for monitoring purposes.

7.6 BUNA PARTICIPANT MONITORING FACILITIES

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Balances	<ul style="list-style-type: none"> • Account code • Account type • Opening balance • Available balance • Number of Debit entries • Number of Credit entries • Sum of Debit entries • Sum of Credit entries 	Its own	Actual on-line information about balance of accounts
Payments	<ul style="list-style-type: none"> • Transaction ID • Message ID • Message type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • FHI • Priority • Value Date • Remittance info • Instrument • Status 	Its own	List of payments for the current day
Message audit	<ul style="list-style-type: none"> • Message ID • Message type • Sender • Receiver • Date Time • Status 	Its own	List of incoming and outgoing messages
Participants	<ul style="list-style-type: none"> • BIC • Name • Address • Phone • Email • Postal address 	All	List of all participants of the system

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Participants' accounts	<ul style="list-style-type: none"> • Code • Type • Correspondent • Currency • FHI • Correspondent BIC 	All	Overall information on accounts of all participants of the system
Daily Limits	<ul style="list-style-type: none"> • Limit type • Amount 	Its own	There will be minimum limits for SOD funding for each currency and FHI, liquidity intraday thresholds for each currency and FHI (with current amount of liquidity above this threshold for each participant), and a limit for a transaction.
Funding and de-funding operations (with statuses)	<ul style="list-style-type: none"> • Transaction ID • Transaction type • Debit BIC • Debtor Name • Debit account • Credit BIC • Creditor name • Credit account • Amount • Currency • FHI • Date • Status 	Its own	There will be a view for funding and de-funding operations (included intraday top-ups and withdrawals)
Business day schedule	<ul style="list-style-type: none"> • Business Day Date • Period name • Period status • Start time (planned and actual) • Finish time (planned and actual) 	All FHIs	There will be a separate Business day schedule for each FHI.
Calendars	<ul style="list-style-type: none"> • FHI • Currency • Date • Status (workday or not) 	All FHIs	There will be separate calendars for each FHI.

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Tasks (alerts)	<ul style="list-style-type: none"> Description Appropriate actions <p>Alerts will be for:</p> <ul style="list-style-type: none"> Fraud AML Liquidity And other issues 	Its own	Users will receive important information via alerts called tasks in Buna

Note: Monitoring will be via the Portal

7.7 CORRESPONDENT BANK MONITORING FACILITIES

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
Participants	<ul style="list-style-type: none"> BIC Name Address Phone Email Postal address 	Of Correspondents	List of all participants of the system
Participants' accounts	<ul style="list-style-type: none"> Code Type Correspondent Currency FHI Correspondent BIC 	Of Correspondents	Overall information on all accounts of the banks participating at Buna
Funding and de-funding operations (with statuses)	<ul style="list-style-type: none"> Transaction ID Transaction type Debit BIC Debtor Name Debit account Credit BIC Creditor name Credit account Amount Currency FHI Date Status 	Of Correspondents	There will be a view for funding and de-funding operations (included intraday top-ups and withdrawals)
Business day schedule	<ul style="list-style-type: none"> Business Day Date Period name 	All FHIs	There will be a separate Business day schedule for each FHI.

MONITORING AREA	ATTRIBUTES	AREA	COMMENTS
	<ul style="list-style-type: none"> • Period status • Start time (planned and actual) • Finish time (planned and actual) 		
Calendars	<ul style="list-style-type: none"> • FHI • Currency • Date • Status (workday or not) 	All FHIs	There will be separate calendars for each FHI.

Note: Monitoring will be via the Portal

8 REPORTING

Buna will include a set of main reports for monitoring, analysis and decision-making purposes.

The Participant GUI User will request a report via the Portal and will receive actual information from database.

Buna will define a list of reports that will be sent automatically, and a list of reports that will be sent on a request basis.

At a first stage, Buna suggests sending the following:

1. Statement report (MT950 == camt.053) automatically at EOD via SWIFT.
2. Account balance report (camt.052) via SWIFT upon request (camt.060)
3. Interim transaction report (camt.052) via SWIFT upon request (camt.060)
4. Other reports will be available (in PDF format) at portal upon request.
5. Some of PDF reports can be created at the EOD and send to the portal

8.1 REPORTS FOR FHI

8.1.1 Funding/de-funding report

8.1.1.1 Report parameters

1. Business Day date
2. Currency

8.1.1.2 Report attributes

1. Participant
2. Sum of SOD Funding
3. Sum of Intraday top-ups
4. Sum of Intraday withdrawals
5. Sum of EOD De-funding

8.1.2 Balance report for the technical account for FHI's currency

8.1.2.1 Report parameters

1. Date From
2. Date To
3. Currency
4. FHI

8.1.2.2 Report attributes

1. Account number
2. Currency
3. Owner of the account
4. Opening Balance
5. Sum of debit entries
6. Sum of credit entries
7. Closing Balance
8. Number of debit entries
9. Number of credit entries

8.1.3 Future dated payments

8.1.3.1 Report parameters

1. Date From
2. Date To

8.1.3.2 Report attributes

1. Date
2. Number of future dated payments for that date
3. Amount of future dated payments for that date in FHI's currency
4. FHI
5. Currency

8.1.4 Transaction statuses

8.1.4.1 Report parameters

1. Date

8.1.4.2 Report attributes

1. Transaction status
2. Number of transactions, having this status

8.1.5 Queue summary

8.1.5.1 Report attributes

1. Total number of queued transactions for the FHI's currency
2. Total sum of queued transactions for the FHI's currency
3. Number of queued transactions for the FHI's currency for each of the priority groups
4. Sum of queued transactions for the FHI's currency for each of the priority groups

8.1.6 Minimum Liquidity Requirements report

8.1.6.1 Report parameters

1. Number of days
2. FHI
3. Currency

8.1.6.2 Report attributes

1. Participant
2. Initial liquidity requirement value
3. Historical Cumulative intraday liquidity usage per hour
4. Historical Liquidity Usage per business day hour basis
5. Historical Future value dated payment values (average per days) (Wave 2 functionality)

8.1.7 Billing report

8.1.7.1 Report attributes

1. Period
2. Fee receiver
3. Payer

4. Currency of Invoice
5. Fee amount divided into fee categories

8.2 REPORTS FOR BUNA PARTICIPANTS

8.2.1 Balance Report

8.2.1.1 Report parameters

1. Date From
2. Date To
3. Account number

8.2.1.2 Report attributes

1. Opening Balance
2. Sum of debit entries
3. Sum of credit entries
4. Closing Balance
5. Number of debit entries
6. Number of credit entries
7. FHI
8. Currency

8.2.2 Account Statement

8.2.2.1 Report parameters

1. Date From
2. Date To
3. Account number

8.2.2.2 Report attributes

1. Currency
2. FHI
3. Opening Balance
4. Sum of debit entries
5. Sum of credit entries
6. Closing Balance
7. Entries information:
 - a. Sequence number of entries within the report
 - b. Transaction Type Code
 - c. Amount of entry (transaction)
 - d. Credit/Debit indicator
 - e. Posting date time
 - f. Message Id
 - g. UETR
 - h. Sending institution
 - i. Debit Account
 - j. Receiving institution
 - k. Credit Account
 - l. Local Instrument
 - m. Message Received Date/Time

8.2.3 Daily Incoming / Outgoing Transactions Report

8.2.3.1 Report Parameters

1. Date From
2. Date To
3. Account number
4. Message type
5. Status
6. Transaction type code

8.2.3.2 Report Attributes

1. Ref. No
2. Posting Date Time
3. Transaction Type Code
4. Message type
5. Credit/debit indicator
6. Currency
7. FHI
8. Amount
9. Debit account
10. Credit account
11. Sending institution
12. Receiving institution
13. Status

8.2.4 Future dated payments

8.2.4.1 Report Parameters

1. Date From
2. Date To

8.2.4.2 Report Attributes

1. Date
2. Currency
3. FHI
4. Number of future dated payments for that date
5. Number of future dated payments for that date for each FHI separately
6. Total amount of future dated payments for that date for each FHI separately

8.2.5 Transaction statuses

8.2.5.1 Report Parameters

1. Date

8.2.5.2 Report Attributes

1. Transaction status
2. Number of transactions, having this status

8.2.6 Queue details

8.2.6.1 Report Parameters

1. Priority group
2. Currency

3. Doc type
4. Transaction Type Code
5. Account

8.2.6.2 Report Attributes

1. Priority group
2. Priority of payment
3. Doc Type – type code of the document that was queued
4. Account
5. Currency
6. FHI
7. Amount of transaction
8. Transaction Type code of a queued transaction
9. Message Receiving Date/Time

8.2.7 Queue Summary

8.2.7.1 Report Parameters

1. FHI
2. Currency

8.2.7.2 Report Attributes

1. FHI
2. Currency
3. Total number of queued transactions for a Participant
4. Total sum of queued transactions for a Participant
5. Number of queued transactions for a Participant for each priority group
6. Sum of queued transactions for a Participant for each priority group

8.2.8 Minimum Liquidity Requirements Report

8.2.8.1 Report Parameters

1. Number of days
2. FHI

8.2.8.2 Report Attributes

1. FHI
2. Currency
3. Participant
4. Initial liquidity requirement value
5. Historical Cumulative intraday liquidity usage per hour
6. Historical Liquidity Usage per business day on an hourly basis
7. Historical Future value dated payment values (average per days) (Wave 2 functionality)

8.2.9 Participants Directory Report

8.2.9.1 Report Attributes

1. ID
2. BIC
3. Institution Type

4. Name
5. Short Name
6. Country
7. Status of the participant
8. Currency – FHI (section) – this and the following attributes will be repeated for each section, where the participant takes part
9. Status of participation in section
10. Participation type in section (Buna Participant)

8.2.9.2 Report Notes

1. Only Master participants with open accounts and these accounts are linked with FHI will be displayed
2. Linked participants will be displayed despite the existence of accounts.
3. Only account with close date in future will be displayed

8.2.10 Billing Report (Invoice)

8.2.10.1 Report Parameters

1. Participant
2. Year
3. Month

8.2.10.2 Report Attributes

1. Period
2. Fee receiver
3. Payer
4. Currency of Invoice
5. Fee amount divided to fee categories

8.2.11 Participant Billing statement report

8.2.11.1 Report parameters

1. Year
2. Month
3. Participant
4. Account code

8.2.11.2 Report attributes

1. Aggregated Financial Invoice ref
2. Aggregated Financial Invoice date
3. Billing period year
4. Billing period month
5. Date
6. Reference
7. Fee category
8. Description
9. Currency
10. Fee payer
11. Gross Fees

12. Discount
13. Net Fees

8.2.12 Report «List of FX providers and currencies pairs»

8.2.12.1 Report Parameters:

1. Trade date from
2. Trade date to
3. FX provider
4. Currency from
5. Currency to

8.2.12.2 Report attributes:

1. Trade date
2. FX provider
3. Currency from
4. Currency to
5. Rate

8.2.13 Report «Master - Linked performance report»

8.2.13.1 Report Parameters:

1. Value date From
2. Value date To
3. Master Participant
4. Linked Participant.

8.2.13.2 Report attributes:

1. Master Participant
2. Linked Participant
3. Currency
4. Calculated Value (Sum of all transactions passed through specific participant)
5. Calculated Volume (Volume of all transactions passed through specific participant)