

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

CONFIDENTIAL

CENTRAL BANK OF ESWATINI

REQUEST FOR PROPOSAL (RFP)

RFP No: CBE_ENPS_ICT_RFP_12-2021_L

RFP Name: IMPLEMENTATION OF THE NATIONAL PAYMENT SWITCH OF THE KINGDOM OF ESWATINI

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Lot 1:

Development of Custom Software and related Project Management Services


Lot 2:

Supply, Installation and Commissioning of Hardware, Packaged and Utility Software, Database and related Project Management Services

Issued on: 10 December 2021

Purchaser: Central Bank of Eswatini

Country: Eswatini

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

Copyright Notice

Copyright© 2021 by the Central Bank of Eswatini. All rights reserved.

Disclaimer

The information contained in this document or information provided subsequently to bidder or applicants whether verbally or in documentary form by or on behalf of the Central Bank of the Kingdom of Eswatini, is provided to the bidder on the terms and conditions set out in this document and all other terms and conditions subject to which such information is provided.

This document is not an agreement and is not an offer or invitation by the Central Bank of the Kingdom of Eswatini to any parties other than the applicants who are qualified to submit the bids. The purpose of this document is to provide bidder with information to assist the formulation of their proposals. This document does not claim to contain all the information each bidder may require. Each bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in this document and where necessary obtain independent advice. The Central Bank of the Kingdom of Eswatini makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this document. The Central Bank of the Kingdom of Eswatini may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this document.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

Important Details about the Bidding Documents

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Sequence	Status/Issue
Invitation for Bids No.	• CBE_ENPS_ICT_RFP_12-2021_L
Cost of Bidding Documents	• Free of charge (Available only to registered bidders)
Scope of Bid	<ul style="list-style-type: none"> • Lot 1: Development of Custom Software and related Project Management Services • Lot 2: Supply, Installation and Commissioning of Hardware, Packaged and Utility Software, Database and related Project Management Services
Pre-bid Clarification: Last date of receipt of pre-bid clarification Address for communication Communication method	<ul style="list-style-type: none"> • <i>Not Applicable</i> • Attention: • Address: • Telephone: • Facsimile number: • Electronic mail address: • <i>In written form only</i>
Pre-bid Meeting:	• <i>None</i>
Bid Submission: Deadline of receipt of bid Location for submission Submission method	<ul style="list-style-type: none"> • <i>The last acceptance date of bid</i> • Time: 5PM (GMT+2) - 24 February 2022 • Attention: Secretary - Tender Committee • Address: P. O. Box 546, Mbabane, Eswatini • Telephone: (+268) 2408 2000 • Fax: • Electronic mail address: nationalpaymentswitch@centralbank.org.sz • <i>Electronic submission</i>
Bid Security	• Not less than 2% of a Bid Price
Date of Opening of Bid	• Date: 25 February 2022
Notification of Award	• Date: 25 March 2022

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Table of Contents

Section 0 - List of Acronyms and Abbreviations

Section I - Instructions to Bidders (ITB)

- A. General
- B. Contents of Bidding Document
- C. Preparation of Bidding Document
- D. Submission and Opening of Bids
- E. Evaluation and Comparison of Bids
- F. Award of Contracts

Section II - Evaluation and Qualification Criteria

- A. Bidder Qualification for Lot 1
- B. Bidder Qualification for Lot 2

Section III - Bidding Forms

- A. Bidder's Response Format (BRF)
- B. Qualification of the Bidder
- C. Bidder's Response to the Schedule of Requirements

Section IV - Schedule of Requirements (SOR)

- A. Background and Context
- B. Formal Requirements

Section V - Conditions of Contract (COC)

- A. Contract and Interpretation
- B. Subject Matter of Contract
- C. Contract and Interpretation
- D. Intellectual Property
- E. Execution
- F. Guarantees and Liabilities
- G. Risk Distribution

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Section 0 - List of Acronyms and Abbreviations.

AML	Anti Money Laundering
API	Application Programming Interface
ATM	Automated Teller Machine
BI	Business Intelligence
CBE	Central Bank of Eswatini
DMZ	Demilitarized Zone
DNS	Deferred Net Settlement
DR	Disaster Recovery
DRL	Disaster Recovery Level
DWDM	Dense Wavelength Division Multiplexing
EBA	Eswatini Banker's Association
ECH	Eswatini Clearing House
EFT	Electronic Funds Transfer
KYC	Know Your Customer
MMSP	Mobile Money Service Provider
MNO	Mobile Network Operator
NDC	Net Debit Cap
NDCM	Net Debit Cap Management
NDU	Net Debit Usage
NPS	National Payment Switch
OTP	One Time Pin
PFMI	Principles for Financial Market Infrastructures
PIN	Personal Identification Number
POS	Point of Sale
PSP	Payment Service Provider
PTL	Physical Tape Library
RTGS	Realtime Gross Settlement
SACCO	Savings & Credit Co-operatives
SADC	Southern African Development Community
SAECH	Swaziland Automated Electronic Clearing House (renamed to ECH).
SLA	Service Level Agreement
SMS	Short Message Service
SWIFT	Society for Worldwide Interbank Financial Transactions
SWIPPS	Swaziland Interbank Payment and Settlement System
TPP	Third Party Provider
VTL	Virtual Tape Library

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Table of Contents for Section I - Instructions to Bidders (ITB)

1. General	10
A. The Purchaser.....	10
B. Rights of The Central Bank of Eswatini	10
C. Tender Preparation	10
D. Tender Submission.....	10
E. Late Receipt Of Tenders.....	11
F. Examination Of Rfp And Acknowledgement	11
G. Site Inspection And Conditions	12
H. Tender Validity, Modification And Withdrawal Of Tenders.....	12
I. Criteria To Be Used In Evaluation Of Proposals.....	12
J. Award Of Contract	12
K. Questions And Explanations.....	13
L. Amendments And Clarifications.....	13

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Section 1 - Instruction to Bidders

Please read the following instructions carefully. Failure to comply with the requirements of these Instructions to Tenderers may cause the return or rejection of your Tender.

A. THE PURCHASER

- 1.1 This Invitation to Tender ("RFP") is issued by The Central Bank of Eswatini.


B. RIGHTS OF THE CENTRAL BANK OF ESWATINI

The Central Bank of Eswatini, in its sole discretion reserves the right to:

- 1.2 Accept or decline any proposal issued by a prospective Tenderer;
- 1.3 Award the contract for the **Name of Tender** based solely on a proposal received without entering into any further discussion;
- 1.4 Shortlist prospective/ successful Tenderers;
- 1.5 Refrain from issuing any contract
- 1.6 Award the tender in its entirety or in part
- 1.7 Extend without notice, the evaluation period

C. TENDER PREPARATION

- 1.1 The submission of the RFP must be strictly in accordance with these instructions, including the information described in "Section IV" "Schedule of Requirements"
- 1.2 Tenders must be prepared and submitted in strict accordance with the RFP documentation. In the event of the tender being awarded, the successful Tenderer(s) will be required to enter into a formal Contract. No valid contract shall exist between the parties unless the parties have entered into a valid written contract.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

- 1.3 Preparation of the Tenders, including but not limited to attendance at any pre-tender meetings, site visits and tender clarification meetings or presentations, shall be at the sole expense of the Tenderer.

D. TENDER SUBMISSION

- 1.1 Submitted Tenders must be complete in all respects and received on or before the tender closing date and time specified in the RFP invitation letter
- 1.2 Electronic copies should be sent to this email address: nationalpaymentswitch@centralbank.org.sz
- 1.3 The Tenders shall be submitted without review by, or the comparison of figures of, any other person or company submitting a tender for the same work and shall in all respects be without collusion with other Tenderers. Where collusion is discovered by the CBE all affected Tenderers shall be disqualified.
- 1.4 All Companies forming a joint venture (whether one or both companies has bought a Tender) in order to submit a single consolidated tender shall advise The CBE in writing prior to the submission of the tender and include in their tender full details of the joint venture including a copy of the signed joint venture agreement. It is left to the discretion of the CBE to accept such joint venture. Where The CBE has not been informed of such joint venture The CBE may at its sole discretion disqualify such submission.

E. LATE RECEIPT OF TENDERS

- 1.1 Tenders received after the Tender closing date and time will be disqualified by The CBE, with or without notice to the Tenderer.

F. EXAMINATION OF RFP AND ACKNOWLEDGEMENT

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

- 1.1 In the event that a Tenderer that is invited to tender does not intend to do so, the complete RFP including but not limited to all attachments, information, documents and material related thereto and any copies made thereof shall be returned to The CBE within three (3) days of receipt of the Tender documentation.
- 1.2 The Central Bank of Eswatini may modify any part of the RFP at any time prior to the closing date of the tender. Modifications to the RFP will be made in the form of addenda to the RFP and will be transmitted simultaneously to all Tenderers.
- 1.3 The Tenderer is responsible for the examination of the RFP and any addenda thereto including any special conditions or provisions which may affect the performance of the services to be rendered in terms of the tender. Should the Tenderer find discrepancies or omissions in the RFP the Tenderer shall notify The CBE in writing immediately on discovery of any discrepancy or omission.

G. SITE INSPECTION AND CONDITIONS

- 1.1 The Tenderer is responsible for making arrangements it considers necessary to become fully informed regarding all conditions that might in any way affect the performance of the services rendered in terms of the tender.
- 1.2 Failure by the Tenderer to satisfactorily investigate the conditions as aforementioned shall not relieve the Tenderer from the responsibility for properly estimating the difficulty or the cost of fulfilling its Tender.

H. TENDER VALIDITY, MODIFICATION AND WITHDRAWAL OF TENDERS

- 1.1 The Tenderer may modify or withdraw its tender provided that notification of such withdrawal or modification is received by the CBE in writing prior to the closing date. Withdrawal or modifications will be acknowledged by the CBE

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

by means of facsimile, e-mail or hand delivered letter to the respective Tenderer.


- 1.2 Once submitted, the tender shall be fully binding upon the Tenderer and must be valid for a period of 3 months from the date of submission of the tender.

I. CRITERIA TO BE USED IN EVALUATION OF PROPOSALS

- 1.1 The CBE will evaluate all proposals submitted in accordance with the criteria indicated in “Section II” of this RFP.
- 1.2 The CBE in its sole discretion reserves its right to apply weightings to the criteria listed in “Section II”.
- 1.3 The CBE will not divulge its final selection criteria to any prospective Tenderers nor will it be obliged to furnish any reasons for its selection(s).

J. AWARD OF CONTRACT

- 1.1 The CBE reserves the right to accept or reject any or all tenders, to waive any provision or deviate from the RFP process or any formality with regard to tenders received and to accept or reject one or more of the items in the tender if such items, at The CBE’s sole discretion, is in the best interest of CBE.
- 1.2 The CBE shall not be bound by the lowest price contained in any tender, and it may accept all or any part of a tender. It shall not be liable for any costs or expenses or damages whether direct or indirect, incurred by any Tenderer who submits a tender, irrespective of the outcome of such tender. If, however, any such tender leads to the conclusion of a contract, then the rights and obligations of The CBE and the Tenderer shall be governed solely by the provisions of the mutually agreed and signed written agreement between the parties.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

- 1.3 The CBE reserves the right to invite the Tenderers, prior to the date of award and/or allocation of its tenders, to discuss any matter relating to the tender and/or to issue supplements or addenda to the tender.

K. QUESTIONS AND EXPLANATIONS

- 1.1 All queries and communication in relation to this RFP shall be directed in writing to the Secretary to the Tender Committee at nationalpaymentswitch@centralbank.org.sz prior to the tender closing date, all questions and clarifications arising from this RFP and CBE's responses thereto will be transmitted or distributed to all Tenderers.

Any Tenderer desiring any explanation or interpretation of this RFP must request it in writing from:

The Secretary of the Tender Committee

The Central Bank of Eswatini

nationalpaymentswitch@centralbank.org.sz

All Correspondence shall bear the reference:

"Name of Tender - Tender number."

L. AMENDMENTS AND CLARIFICATIONS

- 1.1 The CBE reserves the right, after receipt of the tender submissions, to invite the Tenderers(s) for clarification, presentation or negotiation of its tender. Any such clarifications, presentations or supplements shall be considered to form part of the tender submission. Any such discussion, issue of supplements or addenda or invitation to clarify or negotiate, should not be construed as an acceptance, award or allocation of the tender to that particular Tenderer.
- 1.2 No amendments to the provisions contained in this RFP will be binding on the CBE. Written addenda will however be issued by CBE when amendments and/or clarifications to the RFP are deemed necessary. The CBE reserves the right to

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

make whatever amendments or clarifications that in its view are reasonably necessary at any time.

- 1.3 The CBE shall provide a written notice of any addenda issued to all known recipients of the RFP. CBE shall however, not be responsible for any prospective Tenderers failure to receive any addenda. The prospective Tenderer shall be solely responsible for ascertaining, prior to submission of its proposal, that any addenda issued have been received.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

Table of Contents for Section II - Evaluation and Qualification Criteria

A.	Bidder Qualification for Lot 1	1
1.	Eligibility for Lot 1	1
2.	Evaluation for Lot 1	3
B.	Bidder Qualification for Lot 2	4
3.	Eligibility for Lot 2	4
4.	Evaluation for Lot 2	6

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Section II - Evaluation and Qualification Criteria

A. Bidder Qualification for Lot 1

1. Eligibility for Lot 1

1.1 Eligibility in accordance with ITB I (Criteria for Evaluation of Proposals):

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
Nationality	Mandatory	Mandatory	Mandatory	Mandatory	Form 1, Form 2
No Conflicts of Interest	Mandatory	Mandatory	Mandatory	Mandatory	Form 1
Purchaser Eligibility	Mandatory	Mandatory	Mandatory	Mandatory	Form 1, Form 2

1.2 History of Non-performing contracts and litigation

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
History of Non-Performing Contracts, and Litigation	Mandatory		Mandatory		Form 3, Form 4

1.3 Financial Capability

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
Financial Capability	Mandatory		Mandatory		Form 5
Financial Resources	Mandatory	Mandatory	At least, 25%	At least, 10%	Form 6

1.4 General Work Experience

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All partners combined	Each partner	
General Work Experience	Mandatory		Mandatory	Form 7

1.5 Specific Work Experience:

(a) At least three (3) successful and currently operating installations of bespoke developed software, within the past four (4) years for the purpose of building new systems, for major and critically important multi-bank, national-level retail payments processing, clearing and/or settlement systems; and

(b) At least three (3) successful and currently operating installations of bespoke developed software within the past four (4) years for clearing houses, central banks or commercial banks in the fields of fast payment, ATM, etc.; and

(c)

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All partners combined	Each partner	
Specific Work Experience	Mandatory	Mandatory	Must meet requirement for at least two (2) characteristics	Form 8

1.6 In the case of a Bidder who offers to supply and install major items of supply under the contract that the Bidder did not manufacture or otherwise produce, the Bidder shall provide the manufacturer's authorization, using the form provided in Section 3 (Bidding Forms: Form 15 "Manufacturer's Authorisation").

1.7 Understanding of Information Security

Criteria	Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture		Submission Requirements
		All partners combined	Each partner	
Understanding of Information Security	Mandatory		At least one partner must meet requirement	Form 12

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

1.8 Key Personnel and Details

No.	Position	Total Work Experience [years]	Experience In Similar Work [years]
1	Project Manager/Team Leader	10	10
2	Analyst/Designer/Programmer 1	10	8
3	Analyst/Designer/Programmer 2	10	8
4	Senior Software Engineer	10	5
5	Senior Software Engineer - Interface	10	3

This information is to be entered on Form 9 and Form 10 in Section 3 (Bidding Forms).

2. Evaluation for Lot 1

- 2.1 The Purchaser will review all bids submitted to determine whether the bidder is eligible and whether each bid is responsive using the following criteria pursuant to ITB F (Examination of RFP and Acknowledgement):

Only responsive bids will be further considered.

- 2.2 Technical Evaluation [100-X] for Lot 1: The Purchaser will conduct the Technical Evaluation pursuant to ITB I (Criteria to Be Used in the Evaluation of Proposals) using the following criteria:

- (a) Technical Capabilities and Experience of Bidder, and Quality of Key Personnel 30%
- (b) System Architecture and Common Requirements 10%
- (c) Application Module Requirements 30%
- (d) Project Management 10%
- (e) Documentation, Training and Testing 10%
- (f) Support and Warranty 10%

- 2.3 The Purchaser will have a predetermined cut off score for technical competence and bids scored below this cut off value will not be further considered for evaluation.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Price Evaluation [X] Lot 1: The Evaluated Bid Price (Adjusted Bid Price plus the Recurrent Costs weighted) will be identified by the Purchaser pursuant to ITB I (Criteria To Be Used In The Evaluation of Proposals) based on the following criteria:

The Adjusted Bid Price will be calculated as follows;

- (a) Price of IT Products and/or Services Provided and Installed
- (b) Price of Maintenance Services after the Warranty Period
- (c) Adjustments made for:
 - (i) Products/Services omitted
 - (ii) Non conformities
 - (iii) Arithmetic corrections
 - (iv) Anti-Dumping policy
 - (v) Adjustment for Non-resident Bidders
 - (vi) Conversions to a single currency

The Cost Tables in which the above information must be presented by Form 16, 18 and 19 in Section 3 (Bidding Forms).

B. Bidder Qualification for Lot 2

3. Eligibility for Lot 2

3.1 Eligibility in accordance with ITB I (Criteria for the Evaluation of Proposals):

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
Nationality	Mandatory	Mandatory	Mandatory	Mandatory	Form 1, Form 2
No Conflicts of Interest	Mandatory	Mandatory	Mandatory	Mandatory	Form 1
Purchaser Eligibility	Mandatory	Mandatory	Mandatory	Mandatory	Form 1, Form 2

3.2 History of Non-performing contracts and litigation

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
History of Non-Performing Contracts, and Litigation	Mandatory		Mandatory	Mandatory	Form 3, Form 4

3.3 Financial Capability

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
Financial Capability	Mandatory		Mandatory		Form 5
Financial Resources	Mandatory	Mandatory	At least, 25%	At least, 25%	Form 6

3.4 General Work Experience

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
General Work Experience	Mandatory		Mandatory		Form 7

3.5 Specific Work Experience:

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

- (a) At least one (1) successful and currently operating installation for central banks and/or national clearing houses using essentially the same or similar database, configuration, and other utility software as the products; and
- (b) At least two (2) successful installations of servers and/or network equipment within the last five (5) years; and

The similarity shall be based on the physical size, complexity, methods/technology or other characteristics.

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture		Named Sub-Contractor	Submission Requirements
		All partners combined	Each partner		
Specific Work Experience	Mandatory	Mandatory	Must meet requirement for at least one (1) characteristic	N/A	Form 8

- 3.6 In the case of a Bidder who offers to supply and install major items of supply under the contract that the Bidder did not manufacture or otherwise produce, the Bidder shall provide the manufacturer's authorization, using Form 15 provided in Section 3 (Bidding Forms).
- 3.7 Key Personnel and Details: The Bidder must demonstrate that it has the personnel for the key positions that meet the following requirements:

No.	Position	Total Work Experience [years]	Experience In Similar Work [years]
1	Project Manager/Team Leader	10	10
2	Senior Engineer - Hardware	5	5
3	Senior Engineer - Operating System and Utilities	5	3
4	Senior Engineer - Database	5	3

This information is to be entered on Form 9 and Form 10 in Section 3 (Bidding Forms).

4. Evaluation for Lot 2

- 4.1 Responsive Bids: The Purchaser will review all bids submitted to determine whether the bidder is eligible (as per the criteria in this Section) and whether each bid is responsive using the following criteria pursuant to ITB F (Examination of RFP and Acknowledgement):

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Only responsive bids will be further considered.

4.2 Technical Evaluation [100-X] for Lot 2: The Purchaser will conduct the Technical Evaluation pursuant to ITB I (Criteria for the Evaluation of Proposals) using the following criteria:

- (a) System Architecture and Performance 15%
- (b) Hardware Configuration and Optimal Sizing 25%
- (c) Database Software, Utility Packaged Software 5%
- (d) Project Management 15%
- (e) Documentation, Training and Testing 15%
- (f) Maintenance and Technical Support Capacity 25%

The Purchaser will have a predetermined cut off score for technical competence and bids scored below this cut off value will not be further considered for evaluation.

4.3 Price Evaluation [X] Lot 2: The Evaluated Bid Price (Adjusted Bid Price plus the Recurrent Costs) will be identified by the Purchaser pursuant to ITB I (Criteria for the Evaluation of Proposals) based on the following criteria:

The Adjusted Bid Price will be calculated as follows;

- (a) Price of IT Products and/or Services Provided and Installed
- (b) Price of Maintenance Services after the Warranty Period
- (c) Adjustments made for:
 - (i) Products/Services omitted
 - (ii) Non conformities
 - (iii) Arithmetic corrections
 - (iv) Anti-Dumping policy
 - (v) Adjustment for Non-resident Bidders
 - (vi) Conversions to a single currency

The Cost Tables in which the above information must be presented must be presented by Form 17, 18 and 19 in Section 3 (Bidding Forms).


CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

Table of Contents for Section III - Bidding Forms

A. Bidder's Response Format (BRF)	23
1. Letter of Bid	23
B. Qualification of the Bidder	25
2. Bidder Information Form	25
3. Historical Contract Non Performance	27
4. Litigation History	28
5. Financial Capability	29
6. Financial Resources	30
7. General Work Experience	31
8. Specific Work Experience	32
9. List of Key Personnel	34
10. Key Personnel Details	35
C. Bidder's Response to the Schedule of Requirements	36
11. Bidder's Response to the Schedule of Requirements	36
12. Technical Capabilities	37
13. List of Proposed Sub-contractors	38
14. Bid Security (Bank Guarantee)	39
15. Manufacturer's Authorization	40
16. Implementation and Custom Software Cost Table	41
17. Hardware and Packaged Software Cost Table	42
18. Recurrent Costs Table	43
19. Grand Summary Costs Table	44
20. Bid-Securing Declaration	45

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Section III - Bidding Forms

A. Bidder's Response Format (BRF)

[Bidders must use the BRF structure outlined in the following Tables for Lot 1 and Lot 2 in their bids.]

Table: Bidder Response Format for *[Lot 1]* or *[Lot 2]*

Order in Bid	Document Number and Information Required	Check (Y/N)	Page No.
1)	Bidder's Front Page (Bidder's name, Bid Lot, Bid reference details)		
2)	Bidder's Response Format (this table of contents as a checklist)		
3)	Form 1 Letter of Bid		
4)	Form 2 Bidder Information Form		
5)	Form 3 Historical Contract Non Performance		
6)	Form 4 Litigation History		
7)	Form 5 Financial Capability		
8)	Form 6 Financial Resources		
9)	Form 7 General Work Experience		
10)	Form 8 Specific Work Experience		
11)	Form 9 List of Key Personnel		
12)	Form 10 Key Personnel Details		
13)	(For Lot 1) Form 11 Bidder's Response to the Schedule of Requirements for Lot 1 Or (For Lot 2) Form 11 Bidder's Response to the Schedule of Requirements for Lot 2		
14)	Form 12 Technical Capabilities		
15)	Form 13 List of Proposed Sub-contractors		
16)	Form 14 Bid Security (Bank Guarantee)		
17)	Form 15 Manufacturer's Authorization		

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Order in Bid	Document Number and Information Required	Check (Y/N)	Page No.
18)	Form 16 Hardware and Packaged Software Cost Table		
19)	Form 17 Implementation and Custom Software Cost Table		
20)	Form 18 Recurrent Costs Table		
21)	Form 19 Grand Summary Costs Table		
22)	Form 20 Bid-Securing Declaration		

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

1.0. Letter of Bid

[The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.]

Date: *[insert date (as day, month and year) of Bid Submission]*

Invitation for Bids No.:

To: Central Bank of Eswatini

We, the undersigned, declare that:

1. We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB);
2. We meet the eligibility requirements and have no conflict of interest in accordance with Instruction to Bidders;
3. We, including any of our sub-contractors or manufacturers for any part of the contract, have not been declared ineligible by the Purchaser, under the Purchaser's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council;
4. We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following pursuant to:

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

[Insert Lot 1: Development of Custom Software and related Project Management Services, or Lot 2: Supply, Installation and Commissioning of Hardware, Packaged and Utility Software, Database and related Project Management Services]

5. The price of our Bid is:

[Amount of foreign currency in words], [amount in figures], or [amount of local currency in words], [amount in figures]

6. Our bid shall be valid from the date fixed for the submission deadline for bids as stipulated in the Bidding Documents, and it shall remain binding upon us until the event specified in ITB J (Award of Contract);

7. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

8. We undertake, if our bid is accepted, to commence work on the IT Products and/or Services and to achieve Acceptance within the respective times stated in the Bidding Documents;

[Bidder, as appropriate, include or delete the following paragraph and then subsequently include or delete paragraph below it as appropriate]

9. We hereby certify that all the Software offered in this bid and to be supplied under the Contract (i) either is owned by us, or (ii) if not owned by us, is covered by a valid license from the proprietor of the Software;

10. We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with Instruction to Bidders.

11. We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract:

Name of Recipient	Address	Reason	Amount
_____	_____	_____	_____
_____	_____	_____	_____

(If none has been paid or is to be paid, indicate “none.”)

12. We understand that this bid, together with your written acceptance thereof included in your notification of award, shall not constitute a binding contract between us, until a formal contract is prepared and executed;

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

13. We understand that you are not bound to accept the highest evaluated bid or any other bid that you may receive; and

14. We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name and Title of the person signing the Bid

[insert complete name and title of the person signing the Bid]

Signature of the person named above

[insert signature of person whose name and capacity are shown above]

Date signed

[insert date of signing] day of *[insert month]*, *[insert year]*

*: In the case of the Bid submitted by joint venture, specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedule.

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

B. Qualification of the Bidder

2.0. Bidder Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. All Bidders whether they be individual firms, each partner of a Joint Venture, and a named Sub-contractor(s) for highly specialized components of the Products and/or Services must complete the information in this form. All Bidders that complete this form should also complete the further Qualification Forms provided in this section.]

Date: *[insert date (as day, month and year) of Bid Submission]*
ICB No.:

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name] or [In case of JV, insert legal name of each member]</i>
2. Bidder's actual country of registration: <i>[insert actual country of registration], or [In case of JV, insert actual country of registration of each member]</i>
3. Bidder's year of registration: <i>[insert Bidder's year of registration], or [In case of JV, insert s year of registration of each member]</i>
4. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration], or [In case of JV, insert legal address in country of registration of each member]</i>
5. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name and Bidder's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

6. Attached are copies of original documents of *[check the box(es) of the attached original documents]*

- “ Articles of Incorporation (or equivalent documents of constitution or association) or documents of registration of the legal entity(s) named above, in accordance with Instruction to Bidders.
- In case of a JV, letter of intent to form a JV or JV agreement, in accordance with Instruction to Bidders.
- Document(s) of tax payment issued by tax authorities, to certify that there is no delinquent tax, in accordance with Instruction to Bidders.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

3.0. Historical Contract Non-Performance

Bidder's Name: _____ Date: _____

ICB No.: _____ Page _____ of _____ pages

Non-Performing Contracts in accordance with Section 2 (Evaluation & Qualification Criteria)

- ☐ Contract non-performance did not occur during the stipulated period, in accordance with 1.2 of Section 2 (Evaluation & Qualification Criteria) for Lot 1 or in accordance with 3.2 of Section 2 (Evaluation & Qualification Criteria) for Lot 2
- ☐ Contract non-performance did occur during the stipulated period, in accordance with 1.2 of Section 2 (Evaluation & Qualification Criteria) for Lot 1 or in accordance with 3.2 of Section 2 (Evaluation & Qualification Criteria) for Lot 2, as indicated below:

Year	Outcome as Percent of Total Assets	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
		Contract Identification: Name of Purchaser: Address of Purchaser: Matter in dispute:	
		Contract Identification: Name of Purchaser: Address of Purchaser: Matter in dispute:	
		Contract Identification: Name of Purchaser: Address of Purchaser: Matter in dispute:	

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

4.0. Litigation History

[Bidders, including each of the partners of a Joint Venture, shall provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution. A separate sheet should be used for each partner of a Joint Venture.]

Pending Litigation			
<input type="checkbox"/> No previous or pending litigation <input type="checkbox"/> Previous or pending litigation			
Year	Award FOR or AGAINST Bidder	Name of client, cause of litigation, and matter in dispute	Disputed amount (current value, US\$ equivalent)

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

5.0. Financial Capability

[To be completed by the Bidder and, if JV, by each partner to demonstrate that they meet the relevant requirements stated Section 2 (Evaluation and Qualification Criteria) for Lot 1 and Lot 2 respectively.]

Bidder's Legal Name: _____ Date: _____

JV Partner's Legal Name: _____ ICB No.: _____

Page _____ of _____ pages

Financial Data for Previous 3 Years [US\$ Equivalent]

Year 1:	Year 2:	Year 3:

Information from Balance Sheet

Total Assets			
Total Liabilities			
Net Worth			
Current Assets			
Current Liabilities			

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			
Remark (if any)			

Name of auditor (Certified Accountant(s) or Accounting Firm):

Address of auditor:

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Tel:

Contact name and title:

Fax:

Email:

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

6.0. Financial Resources

[Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject contract or contracts as indicated in Section 2 (Evaluation and Qualification Criteria) 1.3 for Lot 1 and 3.3 for Lot 2]

Financial Resources		
No.	Source of financing	Amount (US\$ equivalent)
1		
2		
3		

Name of banker:

Address of banker:

Tel:

Contact name and title:

Fax:

Email:

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

7.0. General Work Experience

[All individual firms and all partners of a Joint Venture must complete the information in this form with regard to the management of Information Products and/or Services contracts generally as indicated in Section 2 (Evaluation and Qualification Criteria) part 1.4 for Lot 1 and part 3.4 for Lot 2]

General Experience		
Starting and Ending Month/Year	Contract Identification	Role of Bidder
	Project name: Brief Description of the Products/Services supplied by the Bidder: Name of <i>Employer</i> : Address: Email: Telephone:	
	Project name: Brief Description of the Products/Services supplied by the Bidder: Name of <i>Employer</i> : Address: Email: Telephone:	
	Project name: Brief Description of the Products/Services supplied by the Bidder: Name of <i>Employer</i> : Address: Email: Telephone:	
	Project name: Brief Description of the Products/Services supplied by the Bidder: Name of <i>Employer</i> : Address: Email: Telephone:	

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

[If a contract is not based on and/or made in a form of general commercial arrangement, the name of Employer should specify a main entity that caused the Bidder to implement a specific contract or project.]

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

8.0. Specific Work Experience

[All individual firms and all partners of a Joint Venture must complete the information in this form with regard to the management of Information Products and/or Services contracts generally as indicated in Section 2 (Evaluation and Qualification Criteria) 1.5 for Lot 1 and 3.5 for Lot 2]

Use a separate sheet for each contract.]

Contract Details	
Contract No. ____ of ____ for Requirement ____	
Award (Starting) Date	Completion Date
Role in Contract (Tick one)	<input type="checkbox"/> Contractor (Implementer) <input type="checkbox"/> Management Contractor <input type="checkbox"/> Joint Venture Partner <input type="checkbox"/> Sub-contractor
Total Contract Amount	US\$

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

If partner in a JV or sub-contractor, specify participation of total contract amount	Percent of Total:	Amount:	
Performance	Contract was completed _____ months ahead/behind original schedule (if behind, provide explanation).	Contract was completed US\$ _____ equivalent under/over original contract amount (if over, provide explanation).	
Subcontracting	Approximate percent of total contract value undertaken by subcontract: _____ %		
Purchaser's Name: Address: Telephone/Fax Number: E-mail:			

[If a contract is not based on and/or made in a form of general commercial arrangement, Total Contract Amount may be left blank.]

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

9.0. List of Key Personnel

[For specific positions essential to contract management and implementation, as specified in Section 2 1.8 and 3.7, bidders should provide the names of at least one candidate qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one form for each candidate.]

Bidders may propose alternative management and implementation arrangements requiring different key personnel, whose experience records should be provided.]

1.	Title of Position:	
	Name of Prime Candidate:	
	Name of Alternate Candidate:	
2	Title of Position:	
	Name of Prime Candidate:	
	Name of Alternate Candidate:	
3	Title of Position:	
	Name of Prime Candidate:	
	Name of Alternate Candidate:	
4	Title of Position:	
	Name of Prime Candidate:	
	Name of Alternate Candidate:	
5	Title of Position:	

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Name of Prime Candidate:

Name of Alternate Candidate:

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

10.0. Key Personnel Details

Position		Candidate <input type="checkbox"/> Prime <input type="checkbox"/> Alternate	
Personnel information	Name		Date of birth
	Professional qualifications		
Present employment	Name of Employer		
	Address of Employer		
	Telephone		Contact (manager / personnel officer)
	Fax		E-mail
	Job title of candidate		Years with present Employer

Summarize professional experience over the last ten years, in reverse chronological order.

From	To	Company / Project / Position / Relevant technical and management experience

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

C. Bidder's Response to the Schedule of Requirements

11.0. Bidder's Response to the Schedule of Requirements

Instruction for Response:

The Bidder shall provide an item-by-item response to the Purchaser's Section 4 (Schedule of Requirements) 9 through 17, demonstrating what the Bidder will provide, and how its IT Products and/or Services respond to the requirements.

Some requirements in SOR 9 may be skipped depending on the Lot the Bidder is participating in.

Bidder should note that single word or standard repeated responses such as "Fully Complied", "Noted" "Our system meets this requirement" "Our solution can be configured for to meet this requirement" etc. are not acceptable or eligible for any score higher than "1" on the five point ranking "0-4" where "4" is high.

The total number of pages for this Response form should be not more than 100.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

12.0. Technical Capabilities

Instruction for Response:

The Bidder shall provide adequate information to demonstrate clearly that it has the technical capability to meet the requirements for the provision of these Products and/or Services.

With this form, the Bidder should summarise:

- Achievements and capacity in perspective of, among others, system implementation, and research and development, in payments, banking areas and other related areas.*
- Important certifications, recommendation letters, awards received, etc., (mandatorily including a copy of certificate pursuant to Section 2 (Evaluation and Qualification Criteria) 1.7.*

The total number of pages for this Response form should be not more than 30.

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

13.0. List of Proposed Sub-contractors

[Bidders are free to list more than one Sub-Contractor against each item of the IT Products and/or Services.

Should a manufacturer or Sub-Contractor be determined to be unacceptable, the Bid will not be rejected, but the Bidder will be required to substitute an acceptable Manufacturer or Sub-Contractor without any change to the bid price.

Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or Sub-Contractors for each item concerned.]

No.	Product or Service to be Supplied	Proposed Sub-contractor	Place of Registration
-----	-----------------------------------	-------------------------	-----------------------

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

14.0. Bid Security (Bank Guarantee)

_____ [Bank's Name, and Address of Issuing Branch or Office]

Beneficiary: _____ [Name and Address of Purchaser]

Date: _____

BID GUARANTEE No.: _____

We have been informed that _____ [name of the Bidder] (hereinafter called "the Bidder") has submitted to you its bid dated _____ (hereinafter called "the Bid") for the execution of _____ [name of contract] under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to your conditions, bids must be supported by a bid guarantee.

At the request of the Bidder, we _____ [name of Bank] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____ [amount in figures] (_____) [amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Form of Bid; or

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

- (b) having been notified of the acceptance of its Bid by the *Purchaser* during the period of bid validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the ITB.

This guarantee will expire: (a) if the Bidder is the successful Bidder, upon our receipt of copies of the contract signed by the Bidder and the performance security issued to you upon the instruction of the Bidder; and (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy your notification to the Bidder of the name of the successful Bidder; or (ii) twenty-eight days after the expiration of the Bidder's bid.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 58.

[signatures]

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

15.0. Manufacturer's Authorization

Invitation for Bids Title and No.:

Lot 1 or Lot 2 *[As appropriate]*

To: _____

WHEREAS _____ who are official producers of
_____ and having production facilities at
_____ do hereby authorize
_____ located at
_____ (hereinafter, the "Bidder")
to submit a bid and subsequently negotiate and sign a Contract with you for resale of the
following Products and/or Services produced by us:

We hereby confirm that, in case the bidding results in a Contract between you and the Bidder, the above-listed products will come with our full standard warranty/license.

Name _____ In the capacity of _____

Signed _____

Duly authorized to sign the authorization for and on behalf of :

Dated on _____ day of _____, _____.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Note: This authorization should be written on the letterhead of the Manufacturer and be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.

Manufacturer's Authorizations for Information Technologies - except for those technologies which the Bidder itself manufactures - are required for all other products or services supplied.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

16.0. Implementation and Custom Software Cost Table

No	Implementation and Custom Software Item/Sub-item Description	Qty.	Unit Prices / Rates		Total Price	
			Supplied Locally	Supplied from outside the Purchaser's Country	Supplied Locally	Supplied from outside the Purchaser's Country
			SZL	USD	SZL	USD
For Lot 1 (Sample)						
1	Client Module Development					
2	Website Development					
3	Server Development					
4	SW Engine Development					
5	Interface "a"					
6	Interface "b"					
7	Etc.					
8	Technical Manuals					
Total Prices for entry in Grand Summary Cost Table:						

Name of Bidder	Authorized Signature of Bidder

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

17.0. Hardware and Packaged Software Cost Table

No	Product Description Item/Sub-item Description	Qty.	Unit Prices / Rates		Total Price	
			Supplied Locally	Supplied from outside the Purchaser's Country	Supplied Locally	Supplied from outside the Purchaser's Country
			SZL	USD	SZL	USD
For Lot 2						
1	Web server & Open Banking Gateway Server					
2	External Interface Server					
3	Application Server					
4	Web Application Server					
5	Database Server					
6	Etc.					
7						
8						
Total Prices for entry in Grand Summary Cost Table:						

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0

Name of Bidder	Authorized Signature of Bidder

18.0. Recurrent Costs Table

No.	Recurrent Item	Price per year for Maintenance Period					Total Prices	
		Y1 (1 st term)	Y2 (2 nd term)	Y3 (3 rd term)	Y4 (4 th term)	Y5 (5 th term)	SZL	USD
Sample Items for Lot 1 (Sample)								
1	Client Module Maintenance							
2	Clearing Module Maintenance							
3	Multi-interface Module Maintenance							
4	Etc.							
Sample Items for Lot 2 (Sample)								
1	Web Servers							
2	Application Servers							
3	Database							
4	Switches							
5	Firewalls							
6	Etc.							
7								
8								
9								
10								
11								
12								
Annual Subtotals:								

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on : Dec 2021

Version : 1.0


Total Prices: Cumulative Recurrent for entry in Grand Summary Cost Table

* Price per year (each maintenance term) shall be reduced to net present value with a discount rate of 5% per annum. Bidder shall consider the mandatory Warranty Period of the Lot that Bidder participates in, to estimate the starting date of the Maintenance Period. Net present value shall be calculated and measured monthly, if applicable.

19.0. Grand Summary Costs Table

Form No.	Price Component	Total	
		Price (SZL)	Price (USD)
16	Implementation and Custom Software Cost For Lot 1, or		
17	Hardware and Packaged Software Cost For Lot 2		
18	Recurrent Costs For Lot _		
GRAND TOTALS to be carried forward to the "Letter of Bid"			

Name of Bidder	Authorized Signature of Bidder

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

20.0. Bid-Securing Declaration

BID-SECURING DECLARATION

Invitation for Bids No.:


To: The Central Bank of Eswatini

We, the undersigned, declare that:

1. We understand that, according to your conditions as specified in ITB, bids must be supported by a Bid Security but we are exempted to submit a Bid Security.
2. We accept that: (a) we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) we will pay the applicable amount provided under Conditions of Contract, if we have committed any of the following actions:
 - (i) Withdrawn our Bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or
 - (ii) Fail or refuse to accept the award and enter into contract or perform any and all acts necessary to the execution of the Contract, in accordance with the Bidding Documents after having been notified of your acceptance of our Bid during the period of bid validity.
3. We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
 - (i) Upon expiration of the bid validity period, or any extension thereof pursuant to your request; or
 - (ii) We are declared ineligible or disqualified upon receipt of your notice to such effect; or
 - (iii) We are declared as the bidder with the Highest Evaluated and Responsive Bid, and we have furnished the performance security and signed the Contract.

Name and Title of Bidder's Authorised Representative:

[insert complete name and title of the person]

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)		
CBE_ENPS_ICT_RFP_12-2021_L	Updated on : Dec 2021	Version : 1.0

Signature of the person named above:

[insert signature of person whose name and capacity are shown above]

Date signed

[insert date of signing] day of [insert month], [insert year]

*: In the case of the Bid submitted by joint venture, specify the name of the Joint Venture as Bidder

**: Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedule.

Note: All italicized text in blue colour is for use in preparing this form and shall be deleted from the final product.

CENTRAL BANK OF ESWATINI REQUEST FOR PROPOSAL (RFP)



CBE_ENPS_ICT_RFP_12-2021_L

Updated on :

Dec 2021

Version : 1.0

Table of Contents for Section IV - Schedule of Requirements (SOR)

A. Background and Context	1
1. Introduction	1
2. Current Issues Faced.....	2
3. General Concept	3
4. Milestone Targets	4
5. Proposed Service Model	5
6. General Conceptual Design.....	6
7. General Project Scope	23
8. Related Statistics and Key Assumptions.....	24
B. Formal Requirements.....	24
9. System Architecture and Common Requirements	26
10. Functional Requirements for Lot 1.....	33
11. Supply Requirements for Lot 2.....	37
12. Project Implementation Requirements	43
13. Project Schedule	45
14. Documentation Requirements	48
15. Training Requirements	49
16. Technical Support Requirements.....	50
17. Testing	52

Section IV - Schedule of Requirements (SOR)

A. Background and Context

1.0. Introduction

Despite the relatively small population and market size, Eswatini has developed advanced financial services and infrastructure, which makes itself to be among the most financially included countries in the Southern African Development Community (SADC). The governmental bodies, including the Ministry of Finance and the Central bank of Eswatini, have put plenty of efforts into financial inclusion of the population, aiming at growing the proportion of adults with access to formal financial services, deepening bank reach, developing various channels to serve the customers, etc. This has contributed to a huge percentage of financially included adults standing at 85 percent as of 2018, according to statistics from the “Eswatini State of Financial Inclusion Report 2019.”

Due to a sizable proportion of people dependent on remittances for their living, remittance services are frequently used, with a rapid growth rate from 145,000 people sending or receiving money in 2014 to 460,000 in 2018. Since the reasons why people are banked can be attributable to the easy and trustworthy remittance services of banks, fast and convenient remittances through the new financial switch would draw more people reaching out to banks.

In the meantime, the growth of digital payments usage is remarkable with statistics of 67 percent of those surveyed in 2018 compared to only 40 percent in 2014. With a high mobile phone penetration rate of around 94 percent, three-fourths of adults use mobile money. Dissemination of mobile payments can contribute to greater access to financial services, especially for people living in rural areas.

On the other hand, payment cards appear not to be among the main payment instruments. Since there are no domestic card brands in Eswatini, all card payment transactions, whether it is a domestic transaction or overseas transaction, pass through the International Card Schemes such as Visa and MasterCard. This makes card payments more expensive and the card market more dependent on International Schemes. Commercial banks play the roles of issuer and acquirer meaning that they issue payment cards for the customers and provide POS terminals to merchants and oversee SW updates and network connections, etc. However, most card transactions are cash withdrawal, rather than payments.

The stakeholders of the payment market in Eswatini consist of the Central Bank of Eswatini, the Eswatini Clearing House, financial institutions, and MMSPs. The Central Bank of Eswatini (CBE) has performed its mandate to facilitate the development and operation of an efficient national payment system and to regulate and supervise the financial sector to the end of achieving a sound and efficient financial system.

The CBE also establishes the regulatory framework for the stable and secure operation of market infrastructure. It is expected that the development of the National Payment Switch can contribute greatly to the overall financial capabilities of the population and the economic growth of the country.

The Eswatini Clearing House is a non-profit making legal entity, equally owned by the CBE and five commercial banks. It performs clearing for Electronic Funds Transfer (EFT), cheques, and others among the participating institutions.

Among the financial institutions, commercial banks are the most important payment service providers. With a relatively huge scale of assets and technological capabilities, banks are providing various payment services to the customers, such as funds transfer (debit/ credit), cash withdrawal through ATMs, utilities/bill payments, card payments, etc. Banks install and operate payment infrastructures like ATMs and POS terminals and reach out to a wider population including the rural region through bank branches and agencies. As the main player of the financial market, banks are participating in several committees related to payment systems, sharing opinions and making rules with the CBE and other stakeholders.

Despite various financial services provided by banks, a certain portion of people are still reluctant to use bank services, as they tend to perceive them as expensive and difficult to use. In this respect, the percentage of the banked population is just above 50 percent, and other types of financial institutions developed on a regional basis, such as SACCOs and credit institutions, supplementally provide savings and credit services to them.

There are two Mobile Money Services, MoMo by MTN and e-Mali by Eswatini Mobile. Even though their main business resides within the telecommunication industry, they provide payment services such as cash withdrawal from the ATMs, remittance, bill payments, etc., by partnering with commercial banks.

According to the 2019 Financial Inclusion Report, while 52% of adults have a bank account, about 70% of adults in Eswatini have mobile money account. They not only use money transfers, airtime purchases, and bill payments services but also save their money over time in the mobile money account.

2.0. Current Issues Faced

The Financial Market Infrastructure landscape in the Kingdom of Eswatini is in a phase of speedy evolution with the advent of new technological developments. The current payments architecture for local interbank clearing and settlements is based on scheduled clearing sessions; twice a day Monday-Friday, once on half days and none on weekends and holidays. The interbank transactions cleared at the Eswatini Clearing House (ECH) are cheques and debit/credit Electronic Funds Transfers (EFTs). There are no domestic card brands in Eswatini. All card payment transactions, whether it is a domestic transaction or international transaction, pass through International Card Schemes such as Visa and MasterCard. In the absence of a national card switch, the banks' card transactions are switched outside the country.

Regional payments are processed using the SADC-RTGS and SWIFT. Non-bank digital financial service providers like mobile network operators do not participate in the clearing and settlement system hence function as a separate and silo standing ecosystem. In this regard, these digital financial service providers work in isolation resulting in lack of systems interconnectedness and interoperability.

3.0. General Concept

3.1. National Payment Switch (NPS)

Based on the “National Payment Switch Project Charter” and subsequent discussions between the CBE, consultants, and the Financial Industry, four features are identified as the cornerstones of this engagement - Card/POS Switch, Fast Payment, Open Banking Platform, and ATM Switch.

These four features are seen as not only the most urgently needed features but also the most feasible for providing interoperable, cost-effective, convenient, and safe payment services. Besides, these will lead to advanced financial services that can embrace recent Information and Communications Technology (ICT) developments and promote effective competition and innovation in various industries, providing a reliable and universal payments backbone to all market participants. Based on this reasoning, the CBE has marked these four features with the highest priorities for Eswatini at present and best meet the market’s needs

3.2. Participants (Settlement)

(a) Direct participation

- **Central Bank of Eswatini:** As the central bank, CBE leads the implementation of the Switch - not limited to IT system implementation but also the implementation of regulations such as laws and rules & procedures (R&P) for the Switch. The CBE is in a position to decide the scope of the Switch based on the final report of this consultation. The CBE further needs to lead a negotiation to reach an agreement regarding the interest of other stakeholders. The SWIPPS is run and hosted by the CBE.
- **Financial Institutions:** Financial institutions, mainly commercial banks in Eswatini, need to co-work with the CBE for a successful launch and operation of the Switch. They need to modify their IT infrastructure to interwork with the Switch and need to introduce new features of the Switch to their customers. Financial Institutions are permitted by law to have Settlement Accounts at the CBE. 4 Commercial Banks have Settlement accounts on the SWIPPS system.

(b) Indirect participation

- **Mobile Network Operators:** Besides financial institutions, mobile network operators (MNOs) provide payment instruments to their customers - mobile money. As a mobile money service provider (MMSP), MNOs need to participate in the Switch similarly to financial institutions. However, MNOs are not permitted by law to have Settlement

accounts on the SWIPPS system. These participants will therefore require a Sponsor Bank to handle the settlement leg.

4.0. Milestone Targets

4.1. The currently targeted infrastructural milestone development for the Switch is the development of a new system that is the subject of this bid, for mediating, processing and servicing four features to provide functions of, among others:

- (i) Mediating, governing and processing transactions from/to participants;
- (ii) Building a database for all transactions flows going through the Switch;
- (iii) Clearing transactions among participants;
- (iv) Managing net debit cap(limit) per participant and updating net debit usage on a real time basis;
- (v) Operating a dedicated website for customers and participants;
- (vi) Analysing data and creating necessary reports for participants;
- (vii) Certification of solution to PCI-DSS;
- (viii) Transmission and receipt of ISO20022 messages;
- (ix) Provision of Open Banking APIs to TPPs
- (x) Processing of EMV compliant transactions
- (xi) Transmission and receipt of batch files
- (xii) Security features, e.g. protection of critical data, key management, detection/prevention of breaches, response to attacks, etc

4.2. In parallel with this targeted development, the CBE would also pursue developments in the organisational and institutional aspects, encompassing, among others:

- (a) Introduction of electronic net settlement regime, by currency, within the *SWIPPS*
- (b) Establishment of a single and common operational rules and technical requirements;
- (c) Centralised risk control mechanism;
- (d) Negotiation and coordination among participants;
- (e) Building a guideline and assisting potential participants in modifying their systems

- (f) Assisting CBE (and other stakeholders if necessary) in establishing laws, R&P, and other regulatory documents

These two strands of development will be pursued in parallel to effectively implement the Switch.

5.0. Proposed Service Model

5.1. ATM Switch

The ATM Switch is a system allowing communication among the core banking system of participating banks. It enables customers of participating banks to conduct certain types of financial transactions such as cash withdrawal, balance inquiry, funds transfer, etc., using an ATM at any participating bank, regardless of at which bank they opened their account. The development of the ATM Switch aims not only to increase convenience for customers but also to reduce the cost of participating banks. With the ATM Switch, as customers are allowed to use any of the participating ATMs, they can reduce time accessing a particular bank's ATM. On the other hand, a participating bank can provide its services to customers in a large geographical area without introducing additional ATMs by sharing its resources with other participating banks. This eventually prevents redundant investment and allows cost-saving in ATM management.

5.2. Card / POS Switch

The Card/POS Switch is a system allowing communication among the core banking system of participating issuers and acquirers. It enables participating issuers and acquirers to send/receive information regarding payment card transactions, and further processes clearing and settlement of transaction amounts. The main target transactions of the Card/POS Switch are domestic payment card transactions, and by processing such transactions, the Switch aims to secure control over domestic transactions and reduce dependency on International Card Schemes. The model of operation for the Eswatini National Payment switch will be an Indirect model - whereby the POS devices and terminals will not communicate directly with the NPS but continue communicating via Acquiring Banks. Additionally, the Switch should be capable of both single and dual messaging card processing.

5.3. Fast Payment

Fast Payment, also known as Instant Payment, Real-time Payment, Immediate Payment, etc., is a network system that connects the core banking system of participating institutions, allowing customers of participating institutions to make interbank fund transfers within a few seconds, anytime, 24/7 365 days a year. As the service channels for financial transactions are moving into the digital environment and customer's need for rapid financial services are increasing, the introduction of Fast Payment is spreading all over the world. Satisfying customers with both convenience and security, Fast Payment becomes a "new normal."

5.4. Open Banking

Open Banking is a service in which banks open their customer financial data to other parties. Generally, in the Open Banking Platform, banks provide the data, and other banks and fintechs use it to provide services. However, any parties managing customer account can be account providers, and any third-parties providing services with those data can be Third-Party Providers (TPPs). In this instance, participants (Financial Institutions and MMSPs) will be the account services providers. The participants of the Open Banking Platform can be banks, fintechs, and other financial institutions.

The Open Banking Platform is not just a simple IT system. It is a combination of a service model, IT systems, Open APIs (Application Programming Interface), participants, R&P, and a legal framework. Fintechs and banks can create a new service, deliver value to customers, and get more revenues by combining their original service and the data from the Open Banking Platform.

6.0. General Conceptual Design

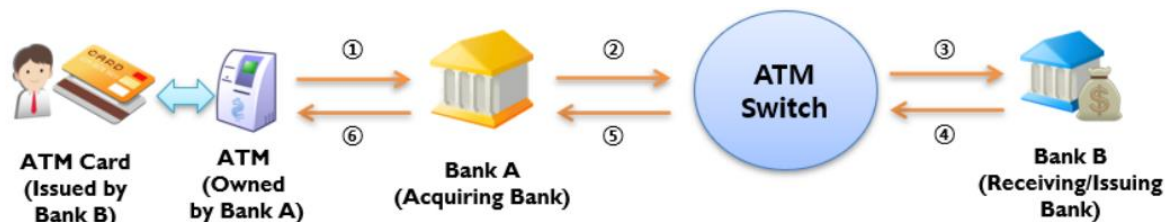
6.1. Transaction Flows

(a) ATM Switch

The ATM Switch consists of three types of functions - balance inquiry, cash withdrawal, and cash deposit. The following description is regarding interbank transactions as the ATM Switch is irrelevant to intrabank transactions.

(i) Interbank Balance Enquiry

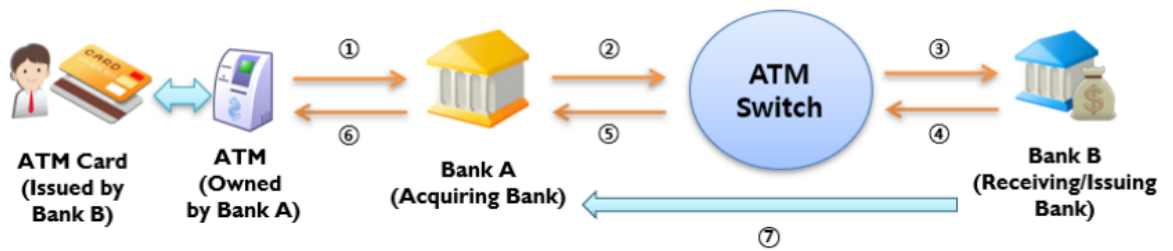
When a customer with an ATM card wishes to check the balance of his/her account, however, cannot access ATMs or branches of the receiving/issuing bank, he/she can request the inquiry at any ATM of participating banks other than the receiving/issuing bank. The bank which issued the ATM card is the receiving/issuing bank and the bank which owns the ATM is the acquiring bank. The acquiring bank can accommodate the balance inquiry request through the “Interbank Balance Inquiry” function. The service flow is detailed below.



- ① A customer of the issuing bank (Bank B) inserts the ATM card into an ATM of the acquiring bank (Bank A), enters a PIN, and requests a balance inquiry.
- ② Bank A checks the request and transmits the balance inquiry request message to the ATM Switch.
- ③ The ATM switch relays the request message to Bank B. For Balance Inquiry, the net debit position of either bank is not updated as it does not involve a transfer of funds.
- ④ Bank B verifies the request message and replies to the ATM Switch the balance information.
- ⑤ The ATM Switch relays the result message to Bank A.
- ⑥ The ATM of Bank A displays the result according to the message to the customer.

(ii) Interbank Cash Withdrawal

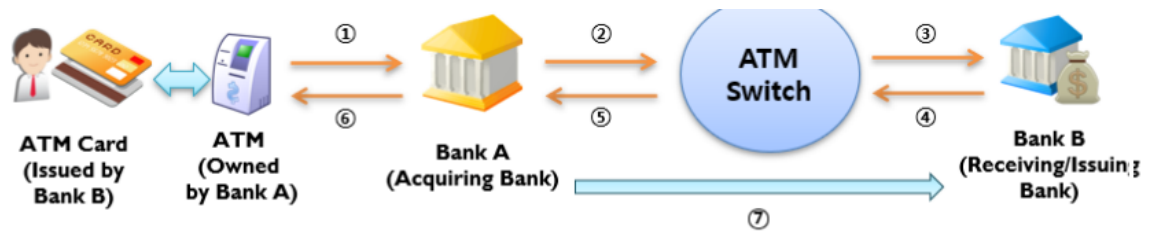
When a customer with an ATM card wishes to withdraw cash from his/her account, however, cannot access ATMs or branches of the receiving/issuing bank, he/she can request to withdraw cash at any ATM of participating banks other than the receiving/issuing bank. The acquiring bank can accommodate the cash withdrawal request through the “Interbank Cash Withdrawal” function. The service flow is detailed below.



- ① A customer of the issuing bank (Bank B) inserts the ATM card into an ATM of the acquiring bank (Bank A), enters a PIN and amount, and requests a cash withdrawal.
- ② Bank A checks the request and transmits the cash withdrawal request message to the ATM Switch.
- ③ The ATM switch updates the net debit position of both banks and relays the request message to Bank B.
- ④ Bank B verifies the request message. If the remaining balance of the customer's account is enough to withdraw cash, Bank B replays an approval message to the ATM Switch. For any erroneous situations, Bank B replays a rejection message to the ATM Switch.
- ⑤ The ATM Switch relays the result message to Bank A.
- ⑥ If the result message is an approval message, the ATM of Bank A gives out cash to the customer. If the result message is a rejection message, the ATM informs the customer about the erroneous situation according to the message.
- ⑦ If the ATM gives out cash to the customer, i.e., the result message from Bank B is an approval message, the amount is later settled between banks.

(iii) Interbank Cash Deposit

When a customer with an ATM card wishes to deposit cash to his/her account, however, cannot access ATMs or branches of the receiving/issuing bank, he/she can request to deposit cash at any ATM of participating banks other than the receiving/issuing bank. The acquiring bank can accommodate the cash deposit request through the "Interbank Cash Deposit" function. The service flow is detailed below.



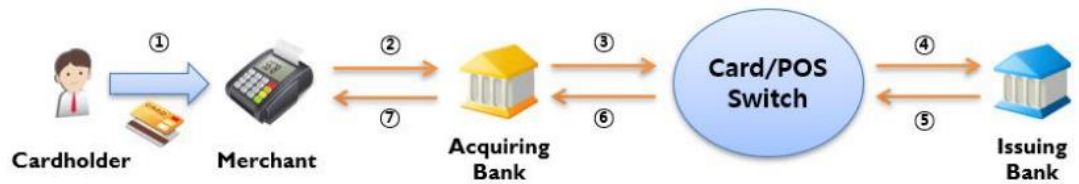
- ① A customer of the issuing bank (Bank B) inserts the ATM card into an ATM of the acquiring bank (Bank A), enters a PIN, and requests a cash deposit. The ATM accepts cash from the customer.
- ② Bank A checks the request and transmits the cash deposit request message to the ATM Switch.
- ③ The ATM switch updates the net debit position of both banks and relays the request message to Bank B.
- ④ Bank B verifies the request message. If the customer's account is valid and can receive deposits, Bank B replays an approval message with an updated balance to the ATM Switch. For any erroneous situations, Bank B replays a rejection message to the ATM Switch.
- ⑤ The ATM Switch relays the result message to Bank A.
- ⑥ If the result message is an approval message, the ATM of Bank A displays the result according to the message to the customer. If the result message is a rejection message, the ATM informs the customer about the erroneous situation according to the message and gives out cash to the customer.
- ⑦ If the ATM accepts cash from the customer, i.e., the result message from Bank B is an approval message, the amount is later settled between banks.

(b) Card / POS Switch

The Card/POS Switch consists of two types of functions - Payment Transactions, Information Sharing.

(i) Payment Transactions

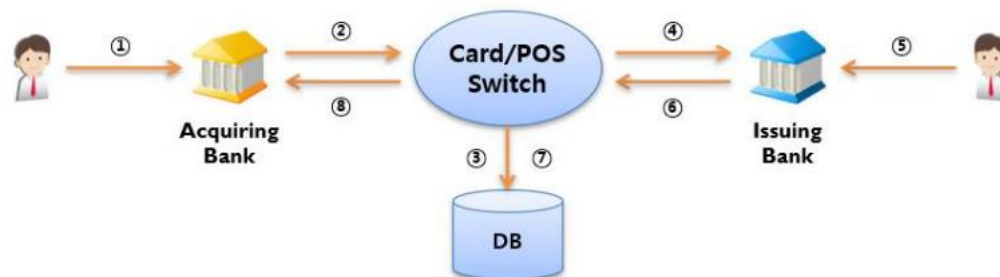
The typical example of Payment Transactions occurs when a cardholder pays with a payment card at a POS terminal installed at a merchant. First, the authorization request is transmitted from the POS terminal to the acquirer using the acquirer's own POS network. Then the request is sent to the Switch and the Switch relays it to the issuer. Once the issuer processes the request, the result is sent back to the acquirer through the Switch. The service flow is detailed below.



- ① The cardholder visits a merchant and pays with a payment card. Alternatively, the cardholder requests a cancellation of the previous payment.
- ② The POS terminal transmits the payment/cancellation request to the acquirer. In case of submission of tickets, the POS terminal transmits them manually/automatically to the acquirer.
- ③ Once the acquirer receives a request, the acquirer examines if the payment card is domestic and if so, forwards the request to the Switch. For non-domestic transactions, the acquirer forwards the request to International Card Networks.
- ④ The Switch, once it receives a request from the acquirer, forwards it to an appropriate issuer. The issuer processes the request.
- ⑤ The issuer returns the result to the Switch. The Switch stores transaction data for later settlement.
- ⑥ The Switch returns the result to the acquirer.
- ⑦ The acquirer returns the result to the merchant's POS terminal.

(ii) Information Sharing

Under the Card/POS Switch, acquirers, issuers, and the Switch need to share information other than payment transactions to operate properly. Depending on who generates information, Information Sharing may occur in different directions. Furthermore, as the characteristics of information vary, the Switch needs to support both real-time message processing and batch file processing. For instance, the acquirer needs card issuance information in real-time to determine domestic transactions. Encryption keys between the Switch and the acquirer/issuer need to be shared in real-time as well. Chargeback requests and results are typically shared in real-time but may be shared in a file depending on circumstances. Information regarding newly joined merchants may be shared to the Switch at a designated time of the day in a file. The service flow is detailed below.

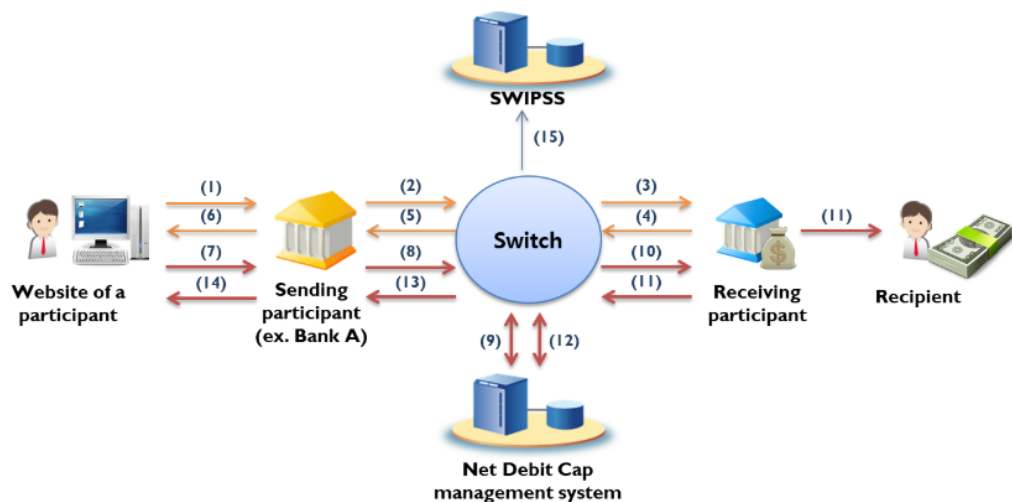


- ① A representative of the acquirer or the third party outsourcing agency registers information, e.g., a new merchant.
- ② The acquirer transmits messages or files containing the registered information and system-generated information, e.g., encryption keys, to the Switch.
- ③ The Switch stores necessary information.
- ④ The Switch relays messages or files received from the acquirer to the issuer. The Switch further transmits system-generated information to the issuer, e.g., encryption keys.
- ⑤ A representative of the issuer or the third-party outsourcing agency registers information, e.g., a new BIN number.
- ⑥ The issuer transmits messages or files containing the registered information and system-generated information, e.g., black-listed card numbers, to the Switch.
- ⑦ The Switch stores necessary information.
- ⑧ The Switch relays messages or files received from the issuer to the acquirer. The Switch further transmits system-generated information to the acquirer, e.g., encryption keys.

(c) Fast Payment

The service functions of Fast Payment comprise mainly: 1) Account status inquiry, 2) Interbank transfer, and 3) Transaction result inquiry.

(i) Account Status Inquiry



- **Account Status Inquiry**

- ① A customer requests funds transfer via the Internet banking website of a bank.
- ② The sending participant (Bank A) checks the request data and sends an inquiry message to the Switch for retrieving the recipient's name and the account's validity.
- ③ The Switch relays the inquiry message to the recipient's bank.
- ④ The recipient's bank checks the status of the account and returns the recipient's name and the account's validity to the Switch.
- ⑤ The Switch relays the information to Bank A.
- ⑥ Bank A presents the recipient's name and the account's validity to the bank clerk or the customer.

(ii) **Interbank Transfer**

- **Interbank Transfer**

- ⑦ The customer confirms the transaction.
- ⑧ Bank A debits from the customer's account and sends a transfer instruction to the Switch.
- ⑨ The Switch relays the transaction to the Net Debit Cap Management System to check whether Bank A has enough balance to debit. If it has, the system increases the Net Debit Usage of Bank A.
- ⑩ The Switch relays the transfer instruction message to the recipient's bank.
- ⑪ The recipient's bank credits to the recipient's account and returns a confirmation message to the Switch. The recipient can withdraw the fund from his/her account or pay with his/her mobile money.
- ⑫ The Switch relays the transaction to the Net Debit Cap Management System and the system decreases the Net Debit Usage of the receiving participant.
- ⑬ The Switch relays the result to Bank A.
- ⑭ Bank A shows the transaction result to the customer.
- ⑮ The Switch clears all transactions collected during a designated period and delivers net settlement requests to the SAECH and SWIPSS for the final settlement.

(iii) Transaction Result Inquiry

After the interbank transfer, the customer can inquire about the result of the transaction and the balance of his/her account. In case of receiving unclear transaction results, the participants may send the transaction result inquiry requests to the switch.

(d) Open Banking

The Open Banking Platform in Eswatini focuses on opening account services of banks to other parties such as FinTechs. The main objective of the Open Banking Platform is to introduce innovation in financial services and enhance the information sovereignty of customers. Customers can inquire about their bank accounts, and they send or receive money with their bank accounts in any fintech services.

Open Banking has 3 services - 1) Customer Authentication API 2) Account Balance / Transaction Inquiry API 3) Account Holder Identification API 4) Debit Transfer API 5) Credit Transfer API

(i) Customer Authentication API

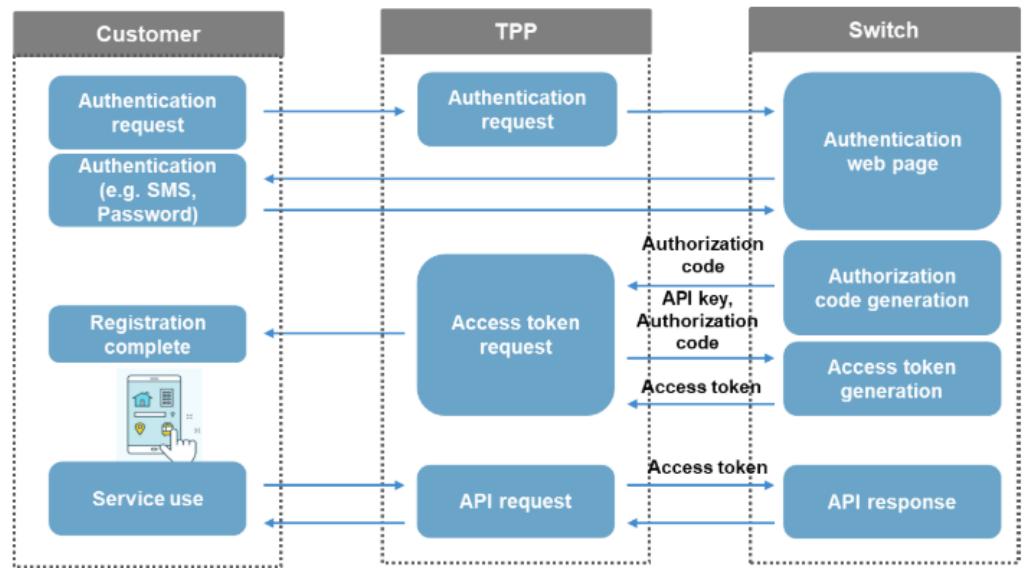
Some Open APIs are initiated from customers' requests and others are initiated from TPPs' requests. Those requests must contain corresponding access tokens to prove that they have proper privileges. Customers authenticate themselves to get customer access tokens via the authentication web page of the Switch. On the other hand, TPPs authenticate themselves to get TPP access tokens with the secret API keys that the Switch issued at the beginning of their services. These tokens are stored in the TPPs' systems and are attached to the requests so that the Switch can verify that the APIs are requested with proper privileges.

The authentication for customers involves three parties, which are a customer, a TPP, and the Switch, so OAuth 2.0 is adopted for a secure access delegation between parties. OAuth 2.0 is an open standard for access delegation, commonly used as a way for users to grant websites access to their information, e.g., authentication results, on other websites but without giving them any secrets, e.g., passwords. Currently, Google, Facebook, Microsoft, and Twitter use OAuth 2.0 to act as ID providers for third-party websites.

Likewise, the Open Banking Switch should provide its authentication web pages to give customer access tokens to TPPs without revealing any secret information. When a customer starts a feature that needs a customer access token in a mobile/web app for the first time, the app pop-ups the authentication page of the Switch and gets the result after the customer's authentication. The following is the flow of this authentication. Some Open APIs are initiated from customers' requests and others are initiated from TPPs' requests. Those requests must contain corresponding access tokens to prove that they have proper privileges. Customers authenticate themselves to get customer access tokens via the authentication web page of the Switch. On the other hand, TPPs authenticate themselves to get TPP access tokens with the secret API keys that the Switch issued at the beginning of their services. These tokens are stored in the TPPs' systems and are attached to the requests so that the Switch can verify that the APIs are requested with proper privileges.

The authentication for customers involves three parties, which are a customer, a TPP, and the Switch, so OAuth 2.0 is adopted for a secure access delegation between parties. OAuth 2.0 is an open standard for access delegation, commonly used as a way for users to grant websites access to their information, e.g., authentication results, on other websites but without giving them any secrets, e.g., passwords. Currently, Google, Facebook, Microsoft, and Twitter use OAuth 2.0 to act as ID providers for third-party websites.

Likewise, the Open Banking Switch should provide its authentication web pages to give customer access tokens to TPPs without revealing any secret information. When a customer starts a feature that needs a customer access token in a mobile/web app for the first time, the app pop-ups the authentication page of the Switch and gets the result after the customer's authentication. The following is the flow of this authentication.

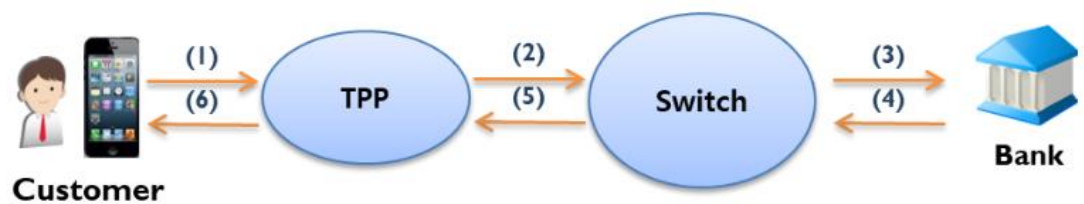


Each access token specifies a target bank, a target account, an API scope, and an expiration date. So, the customer should enter an account number, and select allowed APIs, e.g., an inquiry, a debit transfer. Also, if an access token expires, the customer needs to authenticate again.

Specific authentication schemes depend on each bank. Commonly used schemes are password, OTP by SMS, OTP by mobile apps, biometrics, etc. So, the authorization page offered by the Switch should handle different schemes for different banks.

(ii) Account Balance / Transaction Inquiry API

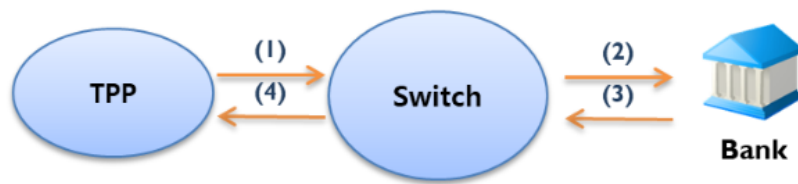
A customer can inquire about the balances or transaction histories of registered accounts on the screen of apps. These APIs should be requested with customers' consent, and the corresponding access tokens should be included in the request sent by a TPP.



- ① The customer selects an account balance/transaction inquiry function in the service app of a TPP.
- ② The TPP sends an account balance/transaction request to the Switch. The request has an account number, and it can also specify conditions for an account transaction inquiry API such as a transaction date.
- ③ The Switch validates the request and the access token and forwards it to the bank if it passes the validation.
- ④ The bank sends an account balance/transaction according to the request to the Switch as a response.
- ⑤ The Switch forwards the response to the TPP again.
- ⑥ The TPP shows the result of the inquiry on the screen of the service app.

(iii) Account Holder Identification API

A TPP can inquire about the account holder's name or the validity of an account. By using this API, the TPP can know the information of a customer's account or recipient's account.



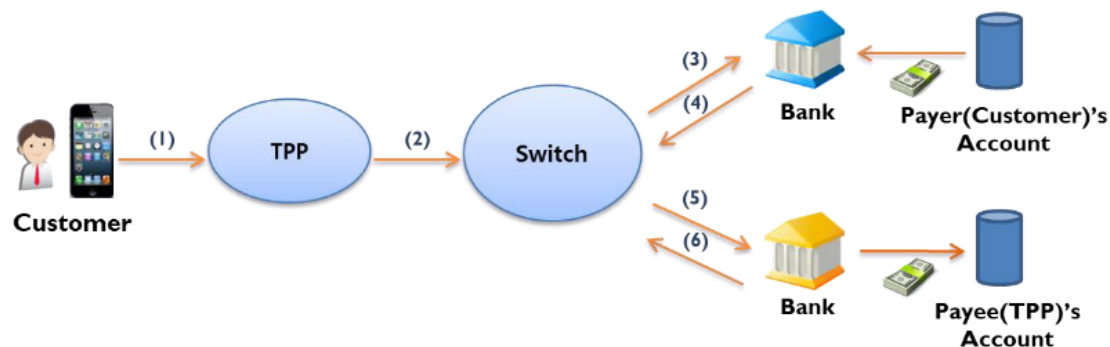
- ① The TPP sends an account holder identification request to the Switch. The request has an account number.
- ② The Switch validates the request and the access token and forwards it to the bank if it passes the validation.
- ③ The bank sends account information corresponding to the request to the Switch as a response.
- ④ The Switch forwards the response to the TPP again. Then, the TPP gets the information of the account.

(iv) Debit Transfer API

A TPP can collect money from a customer's account to a TPP's account with this API. This function requires a customer's consent. So, the customer has to agree that the TPP can debit from his/her account, and the access token issued by that agreement should be included in the debit transfer request.

Every TPP has a Debit Cap for risk management, which will be mentioned in detail in the later section. When the debit transfer is handled by the Switch, the Switch checks out if the Debit Cap is enough, and if the Debit Cap is not enough, the Switch rejects the debit transfer. After successfully processing the debit transfer, the Switch decreases the Debit Cap by the amount of the debit transfer. The Debit Cap is reset to the daily limit of the debit transfer every day.

The Switch can mandate that the TPP should include the information of the customer and the service as an Anti-Money Laundering (AML) measure. This information can be shared with banks and a regulatory body for better AML handling.

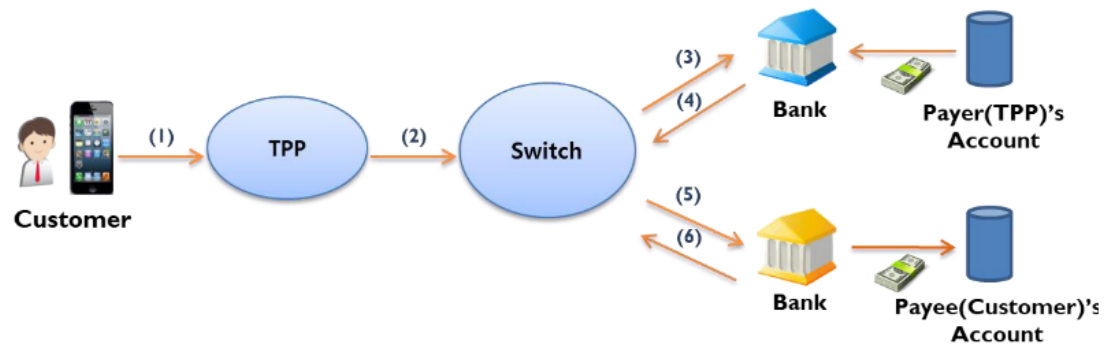


- ① The TPP sends a debit transfer request to the Switch. The request has a TPP's account number, a customer's account number, an amount of money, and the optional information for an AML measure.
- ② The Switch validates the request and the access token, and it checks the debit transfer usage is less than the daily limit. Then the Switch sends a withdrawal request to the bank holding a customer's account if it passes the validation.
- ③ That bank withdraws money from the customer's account and sends a response to the Switch.
- ④ The Switch sends a deposit request to the bank holding a TPP's account again.
- ⑤ That bank deposits money to the TPP's account and sends a response to the Switch.
- ⑥ If all the procedures are successful, then the Switch increases the debit transfer usage and sends a response to the TPP to notify a successful completion. If an error occurs, the Switch sends rollback messages to each bank and also sends a failure response to the TPP.

(v) Credit Transfer API

A TPP can send money to a customer's account from a TPP's account with this API. This function does not require a customer's consent, and the access token of the TPP is included in the request.

The Switch will mandate that the TPP should include the information of the customer and the service as an AML measure in line with current KYC requirements.



- ① A TPP sends the credit transfer request to the Switch. The request has a customer's account number, a TPP's account number, the amount of money, and the optional information for an AML measure.
- ② The Switch validates the request and the access token. Then the Switch sends a withdrawal request to the bank holding a TPP's account if it passes the validation.
- ③ That bank withdraws money from the TPP's account and sends a response to the Switch.
- ④ The Switch sends a deposit request to the bank holding a customer's account again.
- ⑤ That bank deposits money to the customer's account and sends a response to the Switch.
- ⑥ If all the procedures are successful, then the Switch sends a response to the TPP to notify a successful completion. If an error occurs, the Switch sends rollback messages to each bank and also sends a failure response to the TPP.

6.2. Clearing and Settlement

(a) ATM Switch

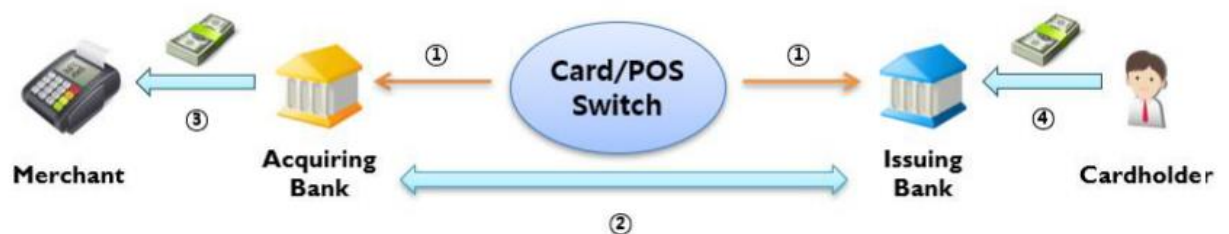
The payment process is initiated by a cardholder and related messages are telecommunicated through an interbank network. Through this network, the ATM Switch relays and processes the transaction-related messages between the acquiring bank and the receiving/issuing bank. When a cardholder requests a financial service at an ATM, the banking system of the acquiring bank generates a request message and transmits it to the ATM Switch through the interbank network. The ATM Switch updates the net debit position of the acquiring bank and the receiving/issuing bank and then relays the message to the receiving/issuing bank through the interbank network. Once the request is processed at the receiving/issuing bank, it replies to the ATM system the result message, and the message is relayed back to the acquiring bank.

The settlement process is similar to the settlement process of EFT, via ECH and SWIPSS. After the payment process is completed for a certain period, the ATM Switch generates the clearing data which is a summary of the net position of each participating bank. The clearing data is sent to each bank for reconciliation and is submitted to the ECH for final

verification. Once the clearing data is agreed upon by participating banks and the CBE, it is submitted to the SWIPSS for settlement. After settlement, the net positions of the acquiring bank and the receiving/issuing bank are updated to reflect the completion of the settlement.

(b) Card / POS Switch

After a pre-defined period of processing payment transactions, e.g., every 24 hours, clearing and settlement take place. The Switch, with consideration of fees and chargebacks, generates a clearing data of issuers and acquires. The Card/POS Switch does NOT update the Net Debit Cap Management balance of any institution. The clearing data is submitted to SWIPSS via SAECH and net positions are cleared with fund transfers between banks. The service flow is detailed below.



- ① The Switch generates clearing data which is a net position of acquirers and issuers. Depending on how SWIPSS manages accounts, the clearing data may generate fee clearing data separate from transaction amounts. The Switch submits the clearing data to acquirers, issuers, and SAECH for settlement.
- ② During the settlement, issuers and acquires transfer funds according to the clearing data.
- ③ The acquirer deposits funds to the merchant's account. As non-domestic transactions are processed and settled by the international card networks, the acquirer needs to deposit both domestic and non-domestic transactions to the merchant's account.
- ④ The cardholder pays the bill to the issuer. When billing, the issuer needs to include both domestic and non-domestic transactions.

(c) Fast Payment

Deferred Net Settlement is the approach chosen for Fast Payments. The settlement process is implemented periodically through relaying "Net" settlement messages from the Switch to SWIPSS. Clearing is instant, but settlement will be in batch at pre-defined periods. Each transaction processed by the Fast Payments system also updates the Net Debit Cap Management balance of the sending and receiving participants. When Settlement interval

is reached, Fast Payment prepares the clearing data that shows the net position of each bank at that point in time and sends it to SWIPPS for interbank settlement. Finally, the CBE settles the net position of the banks through SWIPSS at the designated time point.

(d) Open Banking

Open Banking clearing and settlement for usage of Debit and Credit Transfer APIs will take on a form similar to that adopted for Faster Payments. Clearing of transactions will take place near real-time, while the related settlement will be at pre-defined intervals. Each transaction processed by the Open Banking platform also updates the Net Debit Cap Management balance of the sending and receiving participants. When Settlement interval is reached, Open Banking prepares the clearing data that shows the net position of each bank at that point in time and sends it to the SWIPPS for interbank settlement. Finally, the CBE settles the net position of the banks through SWIPSS at the designated time point.

As detailed above all 4 solutions are deferring settlement to batch processing at periodic intervals, the proposed architecture is to have separate settlement files and possibly settlement periods that suit each product. This separate settlement periods allows settlement issues to be isolated to individual products without impacting the whole switch. This enables flexibility and reliability.

6.3. Net Debit Cap Management

The Net Debit Cap Management is a system that aims to manage the credit risk of participants. This is in charge of managing the Net Debit Cap (NDC) of each participant. It provides means to update Net Debit Usage (NDU), inquire about NDC, set and reset NDC for other business logic.

NDC means the maximum debt that a participant can bear before settlement and NDU means the current sum of debt of a participant. The purpose of Net Debit Cap Management (NDCM) is to reduce the credit risks by limiting the maximum debt allowed to each participant. Hence, when the NDU of a participant reaches the NDC, transactions that increase the NDU are blocked. Transactions subject to the NDCM are ones that payment is involved before settlement. Hence, ATM, Fast Payment, and Open Banking are target transactions. Card/POS is NOT as funds are given to merchants after settlement.

6.4. Fee Management

(a) ATM Switch

The fee that the customer bears splits into three categories - a fee for acquiring bank, a fee for issuing bank, and a fee for the Switch. Consider the following aspects when setting a fee structure. - The fee for features requiring settlement should be higher. As the

settlement involves actual funds transfers, banks need to put additional effort into the settlement.

The fee for the acquiring bank should be higher than the fee for the issuing bank. Since acquiring banks are maintaining ATMs and providing them to other banks, they deserve a higher fee compensation.

Transactions with higher amounts should be charged with a higher fee. Higher amounts most likely end up with increased settlement amounts with greater settlement risk.

The ATM Switch is required to process 2 currencies; the Swazi Lilangeni (SZL) and South African Rand (ZAR). The switch needs the capability to process fees, clearing and settlement in these two currencies.

(b) Card / POS Switch

Part of the data that is prepared for clearing and settlement at the pre-defined periods are the fees relating to the transactions that have taken place since the last clearing window.

The fee that the cardholder and the merchant bear splits into mainly three categories - a fee for the acquirer, a fee for the issuer, and a fee for the Switch.

(c) Faster Payments

For Fast Payment, the customer who requests transfer pays fees to the sending bank, and the fee is shared among the sending bank, the receiving bank, and the Switch.

After a pre-defined period of processing payment transactions, e.g., every 24 hours, clearing and settlement take place. The Switch, with consideration of fees and chargebacks, generates a clearing data of participants.

Sponsored settlement arrangements will not be provided for by the Switch but will be via bilateral agreements between Sponsor Bank and Participant.

(d) Open Banking

The fee for the Open API calls is split into three categories - a fee for the bank holding a TPP's account and a fee for the bank holding a customer's account, and the Switch. The TPP can charge the fee to a customer, but it can bear the fee by itself depending on its business model. The Switch should also decide the fee policy. Generally, a fee for the bank holding a customer's account and the Switch is fixed, but a fee for the bank holding a TPP's account is freely negotiable.

7.0. General Project Scope

The National Payment Switch is composed of Fast Payment, Card/POS Switch, Open Banking Platform, and ATM Switch. Each feature has its domain and functions. Within the scope of the project are the implementation, configuration and development of all the components required for Lot 1 (Software) and Lot 2 (Hardware). The project needs to take into account a phased approach which was agreed on with Industry, the order of implementation is as follows:

- *Faster Payments*
- *Card / POS and ATM Switch*
- *Open Banking*

(a) Design and implementation of the Software and Hardware

- (i) Analysis of requirements
- (ii) General design of the system (including information security)
- (iii) Net debit cap management
- (iv) Message and file management
- (v) Clearing
- (vi) Operational tools
- (vii) Systems monitoring and management
- (viii) Statistics and fee
- (ix) Reporting
- (x) External Interface
- (xi) Web service and client module
- (xii) Supply, set-up and configuration of hardware and network equipment
- (xiii) Hardware Security Module
- (xiv) Server room arrangement

(b) Testing and quality assurance

(c) Certification of solution to PCI-DSS and related standards

(d) Integration and interfaces (Inclusion of this scope shall depend on the readiness of entities to be interfaced and integrated)

(e) Project management and resources

- (f) Documentation and training
- (g) Technical support, maintenance and warranty

8.0. Related Statistics and Key Assumptions

According to the 2019 Financial Inclusion Report, while 52% of adults have a bank account, about 70% of adults in Eswatini have mobile money account. They not only use money transfers, airtime purchases, and bill payments services but also save their money over time in the mobile money account.

The consolidated statistics of transactions as at 31 August 2021 are as follows:

8.1. EFT Statistics

Item	Consolidated Volume Per Month	Consolidated Value Per Month (SZL)
Debit EFTs	27,242	35,563,696.53
Credit EFTs	143,216	2,465,190,265.31

8.2. Mobile Money Statistics

Item	Consolidated Volume Per Month	Consolidated Value Per Month (SZL)
Deposits	1,631,925	495,303,557.61
Withdrawals	1,000,125	357,341,938.00
Transfers	7,603,937	567,696,995.98

8.3. ATM Statistics

Item	Consolidated Volume Per Month	Consolidated Value Per Month (SZL)
ATM	1,315,179	1,455,513,753.00

8.4. POS Statistics

Item	Consolidated Volume Per Month	Consolidated Value Per Month (SZL)
POS	417,997	313,853,104.00

8.5. Cheque Statistics

Item	Consolidated Volume Per Month	Consolidated Value Per Month (SZL)
Cheques	16,166	170,652,361.64

B. Formal Requirements

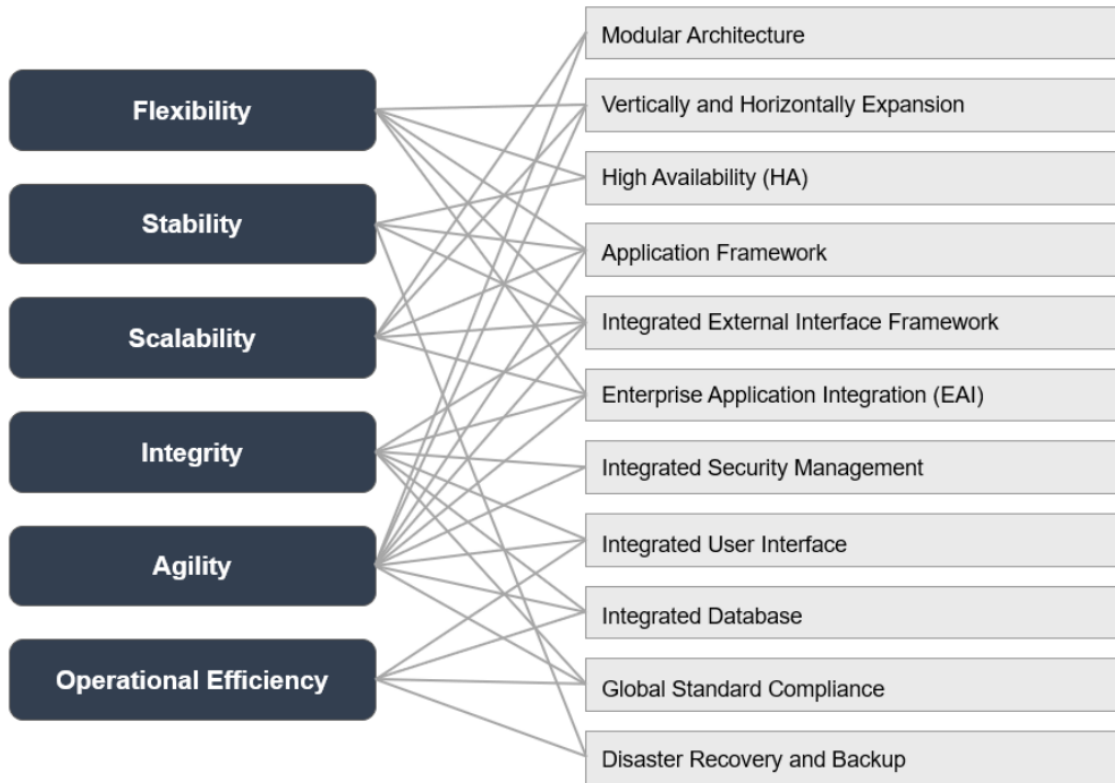
9.0. System Architecture and Common Requirements

9.1. The design of a National Payment Switch should aim to support the introduction of a variety of payment instruments in the future and assist them to expand stably. It also should guarantee the integrity of transactions and facilitate a straightforward connection with outside entities' systems. To ensure such qualities, the following aspects should be given due consideration in the design process of SW and HW:

- (a) Flexibility
- (b) Stability
- (c) Scalability
- (d) Integrity
- (e) Agility
- (f) Operational Efficiency

9.2. These 6 core elements of system design require the following elements to be taken into account:

- (g) High Availability
- (h) Disaster Recovery and Backup
- (i) Modular Architecture
- (j) Vertical and Horizontal Expansion
- (k) Application Framework
- (l) Integrated External Interface Framework
- (m) Enterprise Application Integration
- (n) Integrated Security Management
- (o) Integrated User Interface
- (p) Integrated Database
- (q) Global Standard Compliance



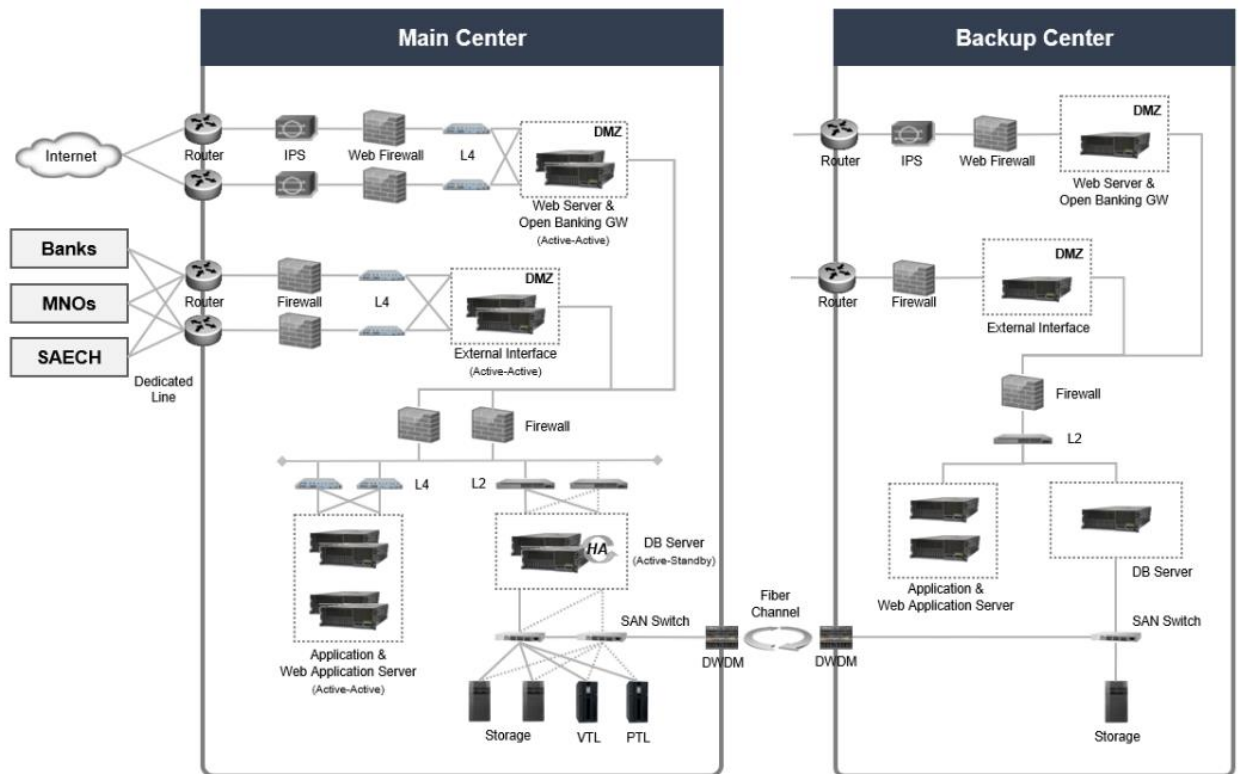
9.3. The Standards that are referred to for this specific Project include the following:

- (r) Technical Standards: This refers to an industry-standard database, encryption, data definition, message definition, interface rules.
- (s) Business Standards: This refers to standards such as ISO 8583, ISO 20022, ISO 27001, and PCI-DSS.
- (t) Management Standards: This refers to project management and system operation, such as ISO 20000.

9.4. Main Site, Remote Back-up site, and Network configuration

The physical infrastructure should be divided into the main site and a backup (Disaster Recovery, DR) site. Since the backup site is for disaster recovery to provide services in the event of a failure of the main site, it should have a certain level of processing power. The server and network equipment of each site can be configured as shown in the below figure, however, depending on the circumstances, it can be modified accordingly.

The external access to each site is largely divided into two types, one is from the Internet and the other is from internal/external entities through dedicated lines. Both external excesses are filtered by firewalls for security. Critical servers guarantee performance and service continuity through redundancy and L4 switches. Data security is guaranteed by multiple backups using different storage mediums.



9.5. Test System

Besides the main site and the backup site, a test system should be included as well. It is recommended to build a test system that is identical to the main site in terms of hardware and network configuration with less processing power. This is to minimize the difference between the production system and the test system, hence reducing the risk of malfunction of already-tested applications.

The test system is to be configured in a Cloud environment, unlike the Main and Backup sites which are configured On-Premise. The scale and/or performance characteristics of the Test system should match that of the Backup site.

9.6. External Interface

The external interface is dedicated to communication between the Switch and systems of outside entities. It processes the transmission of real-time messages and batch-processed files. It manages the communication channels to/from internal entities and external entities.

Outside Entities, the system of organizations other than the Switch can be categorized into two groups - internal entities and external entities. The SWIPSS would be the internal entity as it is another system of the CBE. Systems of commercial banks and MNOs would be the external entities as they are managed by organizations other than the CBE

9.7. Technical Standard

Category	Description
Operating System	System SW such as Windows, Solaris, AIX, Linux provided by the Hardware vendor.
Webserver Middleware	Commercial Web server solutions such as Apache, Nginx, and IIS.
WAS server Middleware	Java-based Web Application Server such as Oracle WebLogic, IBM WebSphere, and Red Hat JBoss EAP.
DBMS	Relational Database Management System such as Oracle, MySQL, and MSSQL.
HA Cluster	Software for failover during system failure.
DB Security	Software to control database user access and query execution. Software to encrypt critical data in the database.
Account Management	Software to control database user access and query execution. Software to encrypt critical data in the database.
System Security	Software to control and log user access to servers, files, and processes
Audit	Software to record user activities at servers
System Monitoring	Software to collect/analyze log files and to monitor server status
TPM	Software to monitor transaction processing in real-time
APM	Software to monitor/manage performance/availability of SW applications in real-time
DPM	Software to monitor database performance in real-time
SMS	Software to monitor system performance (CPU, memory, file I/O, etc.) in real-time
NMS	Software to monitor network status in real-time
File Management	Software to configure and manage files in large-sized storage
Backup SW	Software to backup/restore server data and logs

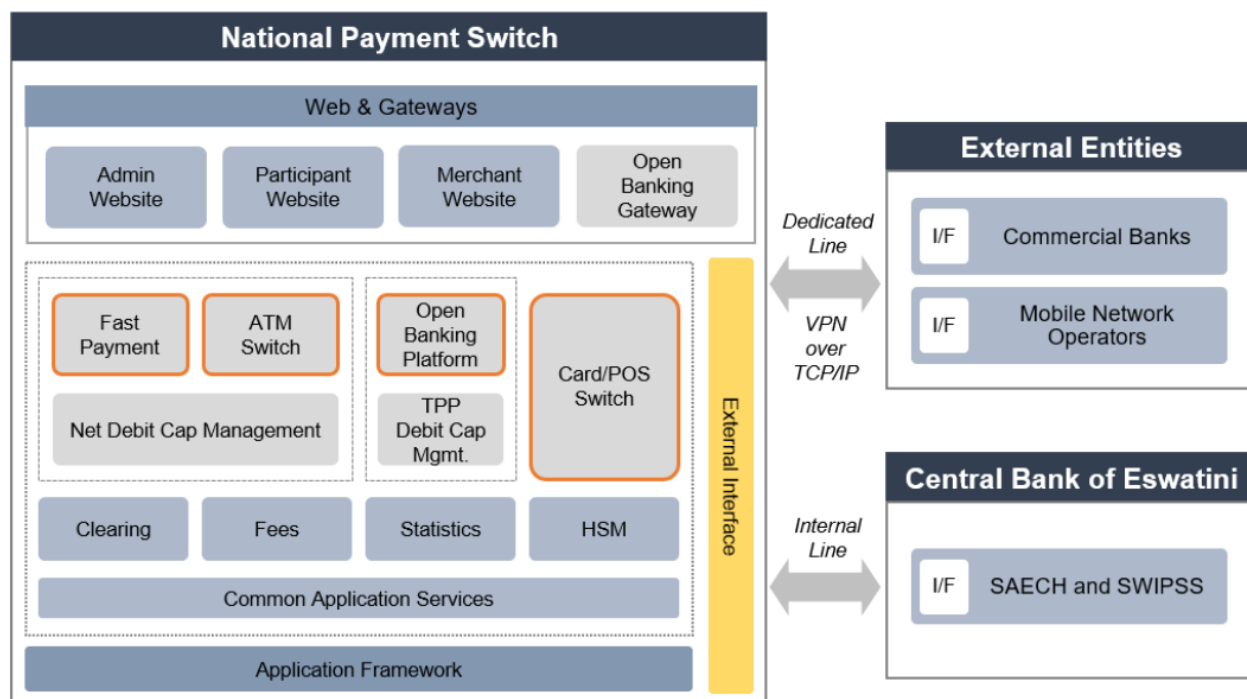
9.8. Customized Software

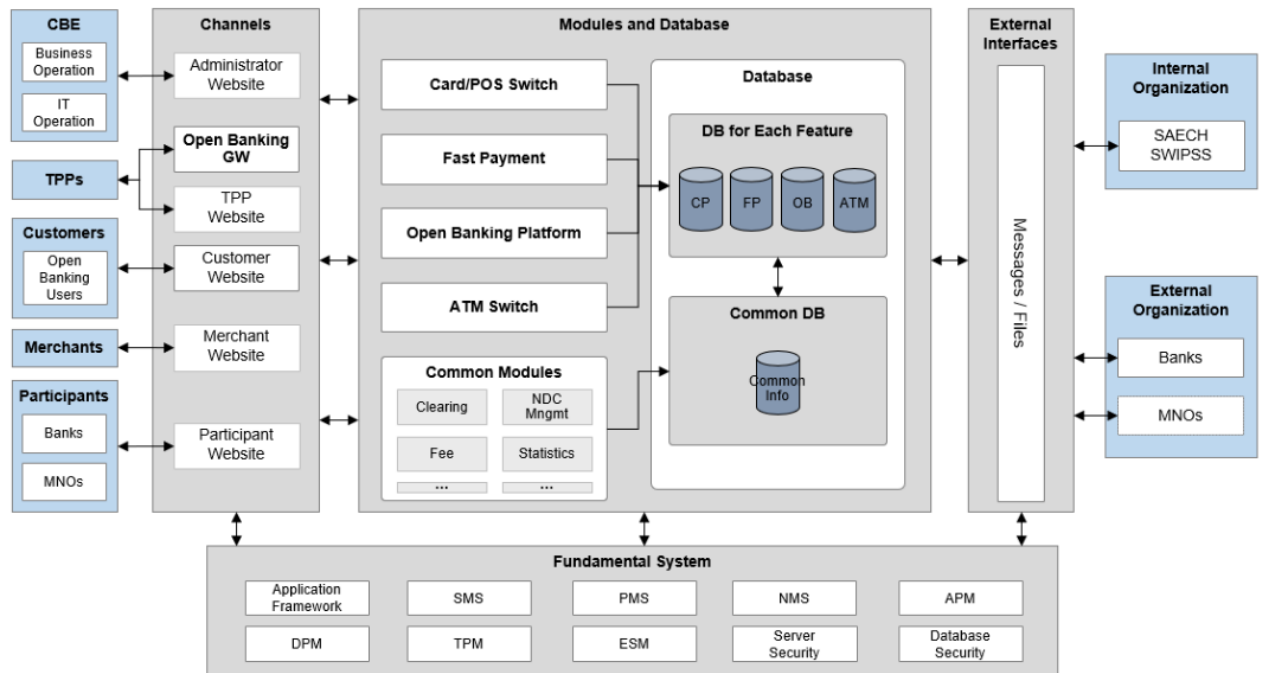
Features as detailed in these requirements that are not available in the standard/off-the-shelf software that the vendor provides will be classified as customized software.

9.9. Proposed System Architecture

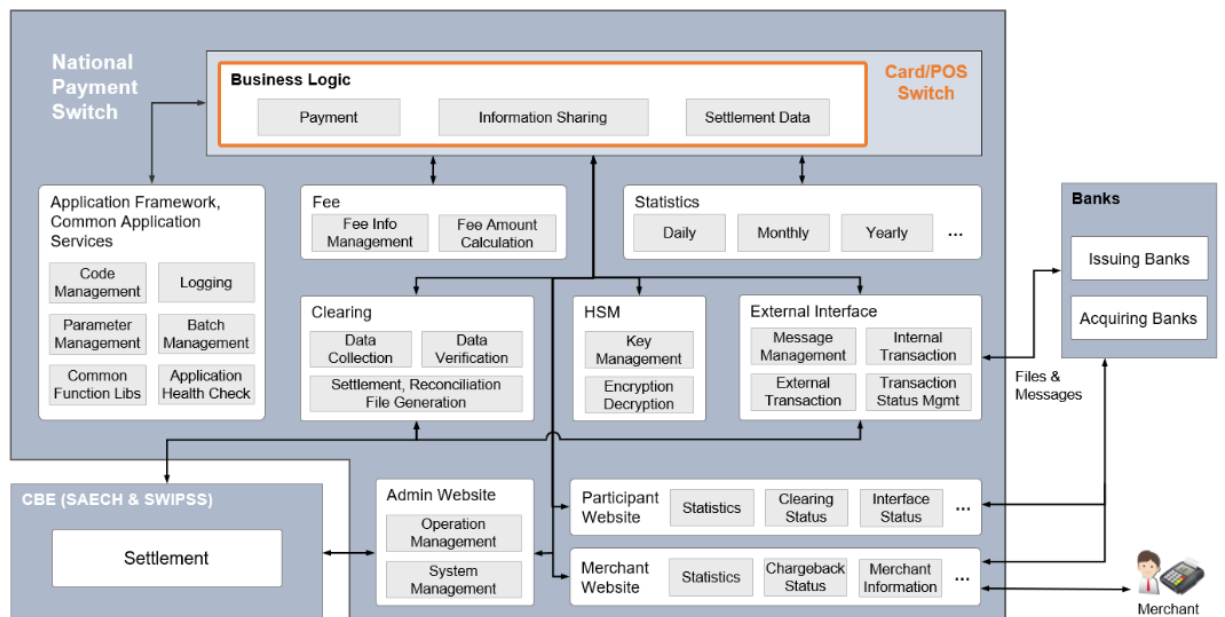
The Switch is composed on Common/Shared functionality which is can be utilised by all four features of the Switch - namely ATM Switch, Card/POS Switch, Faster Payments, Open Banking. There is then functionality that is specific to each feature of the Switch. Each feature has its domain and functions, however, from an application point of view, common functions can be grouped into modules and shared among features.

Proposed System Architecture (Simplified version): The following diagram of proposed system architecture is provided as both a minimal set and guideline.

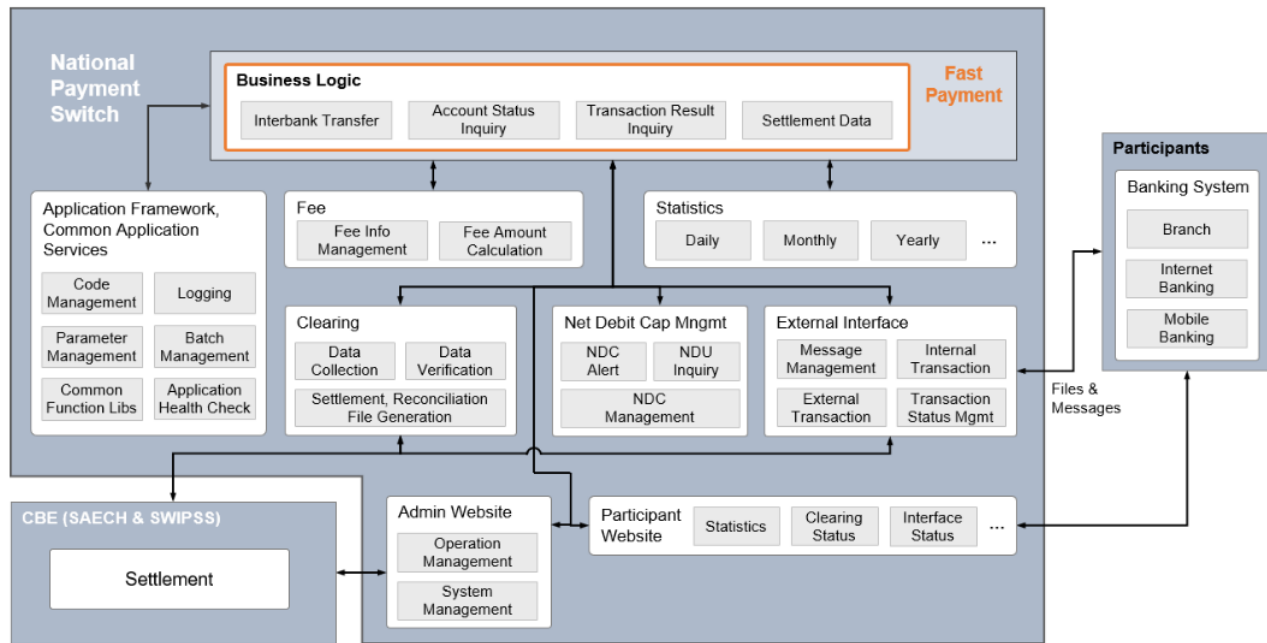




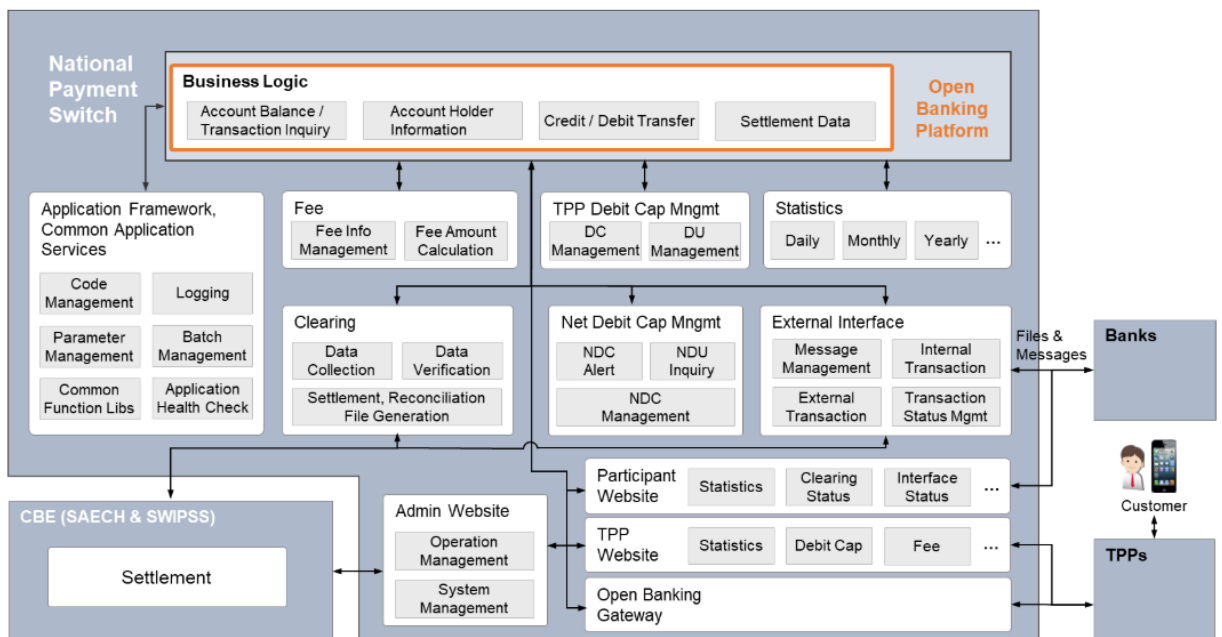
(a) Card / POS Switch Architecture



(b) Fast Payment Architecture



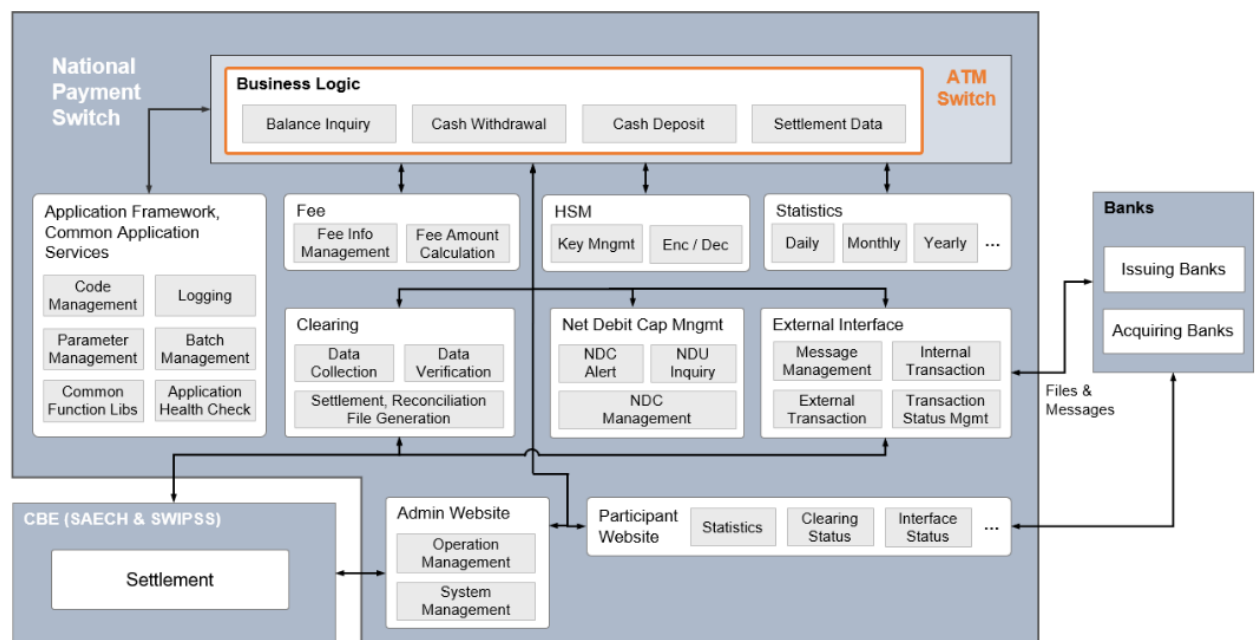
(c) Open Banking Platform Architecture



(d) ATM Switch

The ATM Switch enables customers to use ATMs of participating banks regardless of which bank the account is opened. The customer can inquire about the remaining balance and withdraw/deposit cash at ATMs

The business logic of the ATM Switch includes Balance Inquiry, Cash Withdrawal, and Cash Deposit. It also includes Settlement Data which generated basic data for clearing. The ATM Switch communicates with external entities through the External Interface.



10.0. Functional Requirements for Lot 1

10.1. Card / POS Switch

The Card/POS Switch process domestic payment card transactions by relaying transactions between acquiring banks and issuing banks.

The business logic of the Card/POS Switch consists of Payment and Information Sharing. The Payment logic handles online transactions such as authorization requests and submission of tickets, while Information Sharing is dedicated to data sharing. The business logic also includes Settlement Data which generates basic data for clearing. The Switch communicates with external entities through the External Interface.

10.2. Faster Payments

Fast Payment is the backbone of real-time fund transfer initiated by branches, internet banking, and mobile banking. The initiated transfers are processed by the banking system of the participant and the Switch relays transfers.

The business logic of Fast Payment consists of Interbank Transfer, Account Status Inquiry, and Transaction Result Inquiry. Additional logic, Settlement Data, generates basic data for clearing. The Switch and external entities communicate through the External Interface.

10.3. Open Banking Platform

The Open Banking Platform is the Switch which opens the features related to banking accounts/wallets of Banks and MNSPs to TPPs via Open APIs. TPPs access the Switch through the Open Banking Gateway, which acts as an interface between the Switch and TPPs. Then, the Switch relays the messages appropriately to the TPP or the bank holding the customer's account or the TPP's account.

The business logic of the Open Banking Platform consists of Account Balance/Transactions Inquiry, Account Holder Identification, Credit Transfer, and Debit Transfer. It also includes Settlement Data which generated basic data for clearing. The Open Banking Platform communicates with banks through the External Interface.

10.4. ATM Switch

The ATM Switch enables customers to use ATMs of participating banks regardless of which bank the account is opened. The customer can inquire about the remaining balance and withdraw/deposit cash at ATMs

The business logic of the ATM Switch includes Balance Inquiry, Cash Withdrawal, and Cash Deposit. It also includes Settlement Data which generated basic data for clearing. The ATM Switch communicates with external entities through the External Interface.

10.5. Application Framework & Common Application Services

This includes an application framework for the development and execution of all business logic applications and various common functions. Common functions include code management, parameter management, common function libraries, logging, auditing, batch management, application health check, etc., and can be called and used in other business logic applications

10.5.1. Clearing

This collects and verifies data for settlement. It generates settlement request files that are submitted to SWIPSS. Regarding settlement file generation, few factors need to be decided.

This will generate settlement files multiple times per day in compliance with the settlement policy.

This generates settlement files for fees as well. Fees and transaction amounts are generally created in separate settlement files but may be merged.

Participants (commercial banks and MNOs) will need reconciliation files describing details of the settlement, e.g., number of transactions, amount per transaction, bilateral settlement amounts, etc.

10.5.2. Net Debit Cap Management

This is in charge of managing the Net Debit Cap (NDC) of each participant. It provides means to update Net Debit Usage (NDU), inquire about NDC, set and reset NDC for other business logic.

NDC means the maximum debt that a participant can bear before settlement and NDU means the current sum of debt of a participant. The purpose of Net Debit Cap Management (NDCM) is to reduce the credit risks by limiting the maximum debt allowed to each participant. Hence, when the NDU of a participant reaches the NDC, transactions that increase the NDU are blocked. Transactions subject to the NDCM are ones that payment is involved before settlement. Furthermore, when the settlement is completed, the NDU of each bank is reset

This impacts Fast Payments and Open Banking transactions.

To set NDC, a participant needs to provide collateral to CBE and the current procedure for providing collateral may be applied to NDCM.

To completely remove credit risks, the NDC should be set as the sum of collateral. However, as this may impose a monetary burden on participants, one may consider starting with 30% of NDC as collateral and then adjust the rate after monitoring the maximum NDU and settlement amount. However, in the case the collateral is not 100% of NDC, the settlement may still fail even with collateral. Hence, other measures, such as loss sharing, are required to prevent settlement risks.

10.5.3. Third Party Provider Debit Cap Management

This is in charge of managing the Debit Cap of each TPP. It provides means to update the Debit Usage, inquire about the Debit Cap, and reset the Debit Cap for other business logic. The Debit Cap means the maximum debit transfer that a TPP can request for a customer's account during the remaining time of the day and the Debit Usage means the current usage of the debit transfer of a TPP. The purpose of TPP Debit Cap Management is to reduce the risk that the TPP can impose by maliciously debiting from the customer's account.

10.5.4. Fees

This manages fee-related information and provides it to other business logic. For all four features of the Switch, various fees occur for participants and the Switch. For Open Banking, the TPP that requests an Open API pays fees to the TPP's bank, and the fee is shared among the TPP's bank, the Switch, and the customer's bank. The TPP may additionally charge fees to their customers, but such fees are irrelevant to the Switch.

This manages information of the fee structure - fixed amount per transaction/API, fixed-rate per transaction/API, fee ranges, transaction types, etc., and calculates fees for entities, and further provides accumulated fee amount to the Clearing for settlement.

10.5.5. Statistics

This is dedicated to gathering statistics from business logics on a daily, monthly, or yearly basis and provides refined information to the CBE, participants, and service providers. Typical examples of such statistics would be, a number of transactions, accumulated transaction amount/fee, average transaction amount/fee per participant, TPP (of Open Banking), and merchant (of Card/POS Switch). The statistics form the basis for future decision-making on the operation of the Switch.

Connectivity to a BI and Analytics platform via the External Network to extract raw data from the Switch for regulatory oversight and reporting.

10.5.6. Hardware Security Module

HSM is in charge of managing encryption keys and performs encryption and decryption at the hardware-level. Unlike software encryption and decryption, HSM provides additional features to resist security-related attacks. Furthermore, it provides specialized functions to process payment card transactions that comply with industry standards. While the Switch communicates with participants, various information needs to be encrypted/decrypted, e.g., payment card transactions, IC chip data of ATM cards, etc. and HSM provides protection and means to handle such security-related operations.

10.5.7. External Interface

The External Interface handles communication between the Switch and participants. The Switch communicates with external entities such as commercial banks and MNOs for sending/receiving messages and files. Additionally, the Switch communicates with the legacy system, e.g., SAECH. The External Interface is in charge of message management, internal/external channel management, communication status management, etc. Business logic and common modules can delegate communication to the External Interface and focus on its features.

10.5.8. Open Banking Gateway

The Open Banking Gateway handles communication between the Switch and the TPPs. A TPP calls various Open Banking APIs, and their requests head to the Open Banking Gateway. The Open Banking Gateway is in charge of request management, communication status management, etc. The Gateway also handles communication from/to business logic to process API requests/responses.

10.5.9. Administrator Website

This is an administrative website for the CBE. It aims at providing convenient tools for operational and systematic management of the Switch, i.e., registration of a participant,

enabling/disabling features of each participant, an overview of current system status, inquiring statistics, etc.

The users who have rights to access the website should be grouped into multiple roles to control rights. For instance, there should be very few users in the Administrators that have full rights over the website. System Operators are in charge of systematic management while Operators are in charge of operational management. Auditors are allowed to view user activities and monitor abnormal activities. The website should reflect these groups in the menu structure and functions of each web page so that certain web pages and features are exposed to groups with correct access rights.

10.5.10. Participant Website

This is a website for participants, i.e., banks and MNOs. This aims at providing information to participants. As in the case of the Administrator Website, this should include user groups and appropriate access rights per menu/web page. This website allows participants to view the status of the Switch that are related to each participant, e.g., the status of External Interface, the progress of clearing and settlement, current NDU and NDC, transaction-related statistics, etc.

10.5.11. Merchant Website

This is a website for merchants of Card/POS Switch. This aims at providing information and tools to merchants. As in the case of the Administrator Website, this should include user groups and appropriate access rights per menu/web page. This website allows merchants to view payment card information e.g., transaction statistics, chargeback requests/responses, etc. Furthermore, it provides tools for acquiring banks regarding the management of merchants, e.g., registering/modifying merchant information, POS information, etc.

10.5.12. Third Party Provider Website

This is a website for TPPs of the Open Banking Platform. This aims at providing information to TPPs. As in the case of the Administrator Website, this should include user groups and appropriate access rights per menu/web page. This website allows TPPs to view the status of the Switch that are related to them, e.g., the status of the Debit Cap, transaction statistics, fees, the progress of service registration, etc.

11.0. Supply Requirements for Lot 2

11.1. General Requirements:

11.1.1. Servers

The various servers that are required to host the application as per the resilience architecture proposed. Detailed specifically under table 11.3

11.1.2. Networking Equipment

This covers the various Switches and Routers and related hardware required to transmit and manage network traffic in order to enable the resilience architecture proposed. Table 11.3 provides the detail.

11.1.3. Operating System & related software

The Operating System and related firmware required for the Servers and the Networking Equipment to function.

11.1.4. Backup Equipment

All the various components that make up the backup infrastructure, from the tape libraries to the software managing the backup processes.

11.1.5. Database Management System

The Database Management System and related databases that will be required to enable the application architecture as detailed in section 10.4.

11.2. Purchaser's support

Purchaser's support of the provided equipment is provided in extensive detail under the Operational and Support section of the RFP.

11.3. List of Hardware, Packaged and Utility Software, Database:

Item No.	Description of Item	Quantity	Physical Unit	Quantity by Final Destination			Delivery Date		
				Primary site	Back-up site	Test site (Cloud)	Earliest Delivery Date	Latest Delivery Date	Bidder's offered Delivery date [to be provided by the bidder]
1	Web server & Open Banking Gateway Server	4		2	1				
2	External Interface Server	4		2	1				
3	Application Server	4		2	1				

4	Web Applicati on Server	4		2	1				
5	Database Server	4		2	1				
6	HSM	4		2	1				
7	Backup Managem ent Server (optional)	1		1	-				
8	Storage	4		2	1				
9	Virtual Tape Library	1		1	-				
10	Physical Tape Library	1		1	-				
11	Router	4		4	2				
12	Intrusion Preventio n System	4		2	1				
13	Anti-DDoS (optional)	4		2	1				
14	Firewall	8		4	2				
15	Web Firewall	4		2	1				
16	L4 Switch	6		6	-				
17	L2 Switch	4		2	1				
18	SAN Switch	4		2	1				
19	DWDM Transceiv er	4		1	1				

11.4. Minimum technical requirements for each item:

Item Number	Description of Item	Minimum Technical requirements
1	Server	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
2	Storage (NAS)	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.

Item Number	Description of Item	Minimum Technical requirements
3	Router	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
4	Firewall with VPN	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
5	Firewall	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
6	Switch	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
7	Intrusion Protection System (IPS)	Must be capable of meeting performance (8.1 combined), security and reliability requirements as per functional requirements. This must be achievable on the DR environment.
8	Server Rack	Must be capable of supporting all infrastructure as detailed in Lot 2.
9	Operating System	A reputable Operating System with a proven industry track record. Refer to 9.7
10	Database	A reputable RDMS with a proven industry track record of ensuring transaction integrity and maintaining performance to at least the level indicated by the combined statistics in Section 8.1. Refer to 9.7
11	Report Generation Tool	Must be capable of meeting functional requirements.
12	Back-up Management Solution	Must be capable of meeting functional requirements
13	High-Availability and DR Solution	Must be capable of meeting functional requirements
14	Server Security Solution	Must be capable of meeting functional requirements
15	Software Developer Tool	Must be a widely used tool and have well documented API standards

11.5. Configuration:

(a) Active-Active configuration:

For Active-Active configuration, L4 switches act as a load balancer by delivering service requests to each server in a round-robin way. When one server fails, the other server continues to provide service, hence service continuity is assured. In theory, all servers can be configured as Active-Active, and in particular, the following servers should be configured as Active-Active:

- Web Server
- Open Banking Gateway
- External Interface
- Application Server

- Web Application Server

(b) Active-Standby configuration:

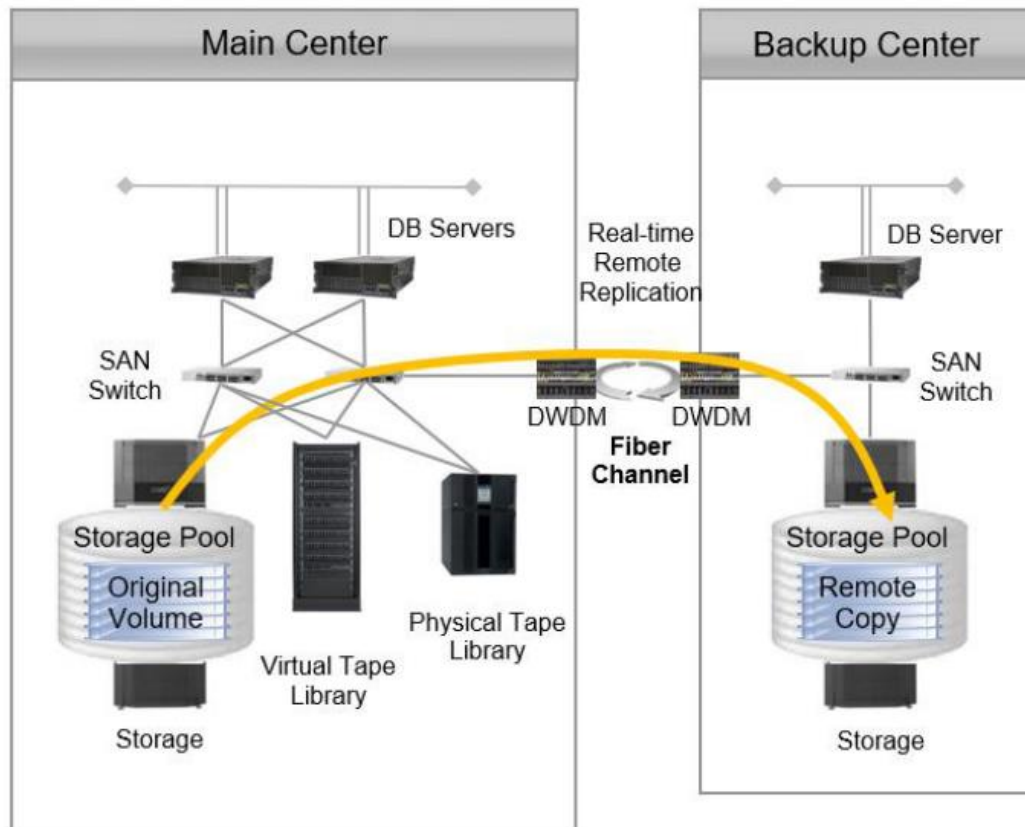
The database servers are configured as Active-Standby. During normal times, the active database server processes service requests, and the HA solution continuously monitors the server status. When a failure occurs in the active server, the standby server immediately switches to the active state to process service requests. After the failure is recovered, the server goes back to standby mode.

(c) Data replication from the Database server in Primary Site to the Database server in Back-up Site

The data backup process consists of two steps. The first step involves backup from storage to the virtual tape library (VTL), and the second step involves backup from the VTL to the physical tape library (PTL).

(d) The Back-up server

Storage backup from the main site to the backup site (disaster recovery site) is done in a real-time manner. This is to ensure that both storages are up-to-date so that in case of disaster, the backup site can take over the main site. As two sites are geographically distanced, dedicated fiber-optic lines and Dense Wavelength Division Multiplexing (DWDM) are used.



- (e) Firewall
- (f) L2 switching and routing
- (g) Redundancy scheme

In addition to redundant server configuration, power supply, network equipment, security equipment, backup, and storage need to be considered to ensure uninterrupted operations and to prepare for general failures. The below table summarizes the requirements for each category.

Categories		Description of Requirements
Power Supply		UPS should be installed to prevent outages or power control malfunction. If a prolonged outage is common, power generators should be considered as well.
Network and Security Equipment		Setup network and security equipment such as a firewall/IPS, router, and switch in a redundant configuration.
Backup		Backup all servers with multiple copies.
Storage		Setup storage and SAN switches in a redundant configuration. Make sure disks are in RAID mode.
Server	Web, Gateway, Web Application	Configure servers in a redundant configuration with active-active load balancing.
	Database	Configure servers in a redundant configuration with active-standby high-availability.

- (h) Proposed duplication and Fail-over scheme
- (i) Proposed replication scheme
- (j) Proposed Back-up scheme

12.0. Project Implementation Requirements (PIR)

Supplier Responsibilities for Lot 1:

- (a) Design, supply and implementation of the required application software, interfaces and related sub-systems
- (b) Completion of the detailed application software and interface requirements
- (c) Loading and set-up of all static data and parameters
- (d) Delivery of all source code available and accompanying technical documentation
- (e) Training of the CBE users, and IT staff as well any entity which is handling any Outsourced operation of the Switch.
- (f) Cooperation with the CBE and participants
- (g) Management of the schedule and tasks required to fulfil the proceeding responsibilities
- (h) Operational Support for a certain period of time after go-live to ensure full operation.

- (i) Availability to provide Maintenance services for a certain period of time to ensure the system's stable operation and full transfer of knowledge and technologies
- (j) Maintenance Agreement for the support of software and related for Lot 1.

Supplier Responsibilities for Lot 2:

- (a) Supply and implementation of the required system, network equipment and system solutions contained in these Schedule of Requirements;
- (b) Completion of the detailed requirement definition in negotiation with the Purchaser;
- (c) Loading and set-up of all static data and parameters
- (d) Assistance with the specification, acquisition and implementation of the required application software;
- (e) Cooperating with the Purchaser in commissioning the operational platform;
- (f) Assistance with the design, and specification of the necessary telecommunication equipment and the implementation of the current and new network environment;
- (g) Full operational and user documentation of the new system;
- (h) Training of the Purchaser;
- (i) Management of the schedules and tasks required to fulfil the preceding responsibilities;
- (j) Cooperating with the Supplier in Lot 1 in providing relevant system environment for software development and testing
- (k) Maintenance Agreement for the support of Hardware and related for Lot 2.

Purchaser's Responsibilities:

- (a) The Purchaser shall be responsible for the overall management of the Project
 - (i) Project management
 - (ii) Requirement confirmation
 - (iii) Project resources and coordination.
 - (iv) Training resource
 - (v) Software development coordination
 - (vi) Stakeholder coordination
 - (vii) Administrative matters

Project Structure:

- (a) The Purchaser shall form a Project Coordination Team.
- (b) The Project Coordination Team will be composed of several sub-sections:



- (i) Project Management Section
- (ii) System Support Section
- (iii) Software Development Support Section
- (iv) Documentation and Communication Section
- (v) Business Section
- (vi) CBE Software Development Section

13.0. Project Schedule *(Indicative)*

The Project Schedule applies to both Lot 1 and Lot 2. Bidders for Lot 1 and Lot 2 should take particular note of this outlined Project Schedule to ensure that the individually scheduled delivery and milestones are coordinated between Lot 1 and Lot 2. For example, early delivery of some hardware will be required to establish the required development environment and initial training and testing facilities.

This is an indicative Project Schedule which shows estimated timelines, as well as activities that need to be accounted for in the Project. The timelines are expressed in Working Days, NOT Calendar Days. The Eswatini Industry has agreed to implement this project in a phased approach, with the sequencing as indicated in this Project Schedule.

Governance and Shared Features:

41		▲ Governance & Shared Features	183 days?	Thu 17/03/22	Mon 28/11/22
42		Contract Signing	22 days	Thu 17/03/22	Fri 15/04/22
43		Project Plan Finalisation	22 days	Thu 17/03/22	Fri 15/04/22
44		Requirements Identification/Clarification	44 days	Mon 18/04/22	Thu 16/06/22
45		Technical Design	44 days?	Mon 18/04/22	Thu 16/06/22
46		Program Design Documents	44 days?	Mon 18/04/22	Thu 16/06/22
47		Interface Specifications	44 days?	Mon 18/04/22	Thu 16/06/22
48		Hardware / Software Procurement	66 days	Wed 18/05/22	Wed 17/08/22
49		Legal Framework	161 days?	Mon 18/04/22	Mon 28/11/22
50		Rules & Procedures	66 days?	Mon 29/08/22	Mon 28/11/22

Faster Payments:

51		▲ Faster Payments	124 days?	Tue 19/07/22	Fri 27/01/23
52		Implementation	44 days?	Tue 19/07/22	Fri 16/09/22
53		Unit Testing - Internal	10 days	Mon 19/09/22	Fri 30/09/22
54		Unit Testing Fixes	5 days	Mon 03/10/22	Fri 07/10/22
55		Sign-Off Unit Testing	1 day?	Mon 10/10/22	Mon 10/10/22
56		User Acceptance Testing - Industry	20 days?	Tue 11/10/22	Mon 07/11/22
57		UAT Fixes	10 days?	Tue 08/11/22	Mon 21/11/22
58		Sign-Off User Acceptance Testing	1 day?	Tue 22/11/22	Tue 22/11/22
59		Performance Testing	10 days?	Wed 23/11/22	Tue 06/12/22
60		Sign Off - Performance Testing	1 day?	Wed 07/12/22	Wed 07/12/22
61		End to End Testing - Industry	10 days?	Thu 08/12/22	Wed 11/01/23
62		End to End - Fixes	5 days?	Thu 12/01/23	Wed 18/01/23
63		Sign-Off End to End Testing	1 day?	Thu 12/01/23	Thu 12/01/23
64		Training	5 days?	Fri 13/01/23	Thu 19/01/23
65		Migration Activities	5 days	Fri 20/01/23	Thu 26/01/23
66		Go-Live	1 day?	Fri 27/01/23	Fri 27/01/23

Card/POS & ATM Switch

67		▲ Card / POS & ATM Switch	249 days?	Mon 13/02/23	Thu 15/02/24
68		Implementation	88 days	Mon 13/02/23	Wed 14/06/23
69		Unit Testing - Internal	10 days?	Thu 15/06/23	Wed 28/06/23
70		Unit Testing Fixes	5 days?	Thu 29/06/23	Wed 05/07/23
71		Unit Testing Approval	1 day?	Thu 06/07/23	Thu 06/07/23
72		User Acceptance Testing - Industry	30 days?	Fri 07/07/23	Thu 17/08/23
73		User Acceptance Testing Fixes	10 days?	Fri 18/08/23	Thu 31/08/23
74		Sign Off - User Acceptance Testing	1 day?	Fri 01/09/23	Fri 01/09/23
75		Performance Testing	10 days?	Mon 04/09/23	Fri 15/09/23
76		Performance Testing Sign-Off	1 day?	Mon 18/09/23	Mon 18/09/23
77		End to End Testing - Industry	10 days?	Tue 19/09/23	Mon 02/10/23
78		End to End Testing Fixes	5 days?	Tue 03/10/23	Mon 09/10/23
79		Sign Off - End to End Testing	1 day?	Tue 10/10/23	Tue 10/10/23
80		Training	5 days?	Wed 11/10/23	Tue 17/10/23
81		Migration Activities	5 days?	Wed 18/10/23	Tue 24/10/23
82		Certification	66 days?	Wed 25/10/23	Wed 14/02/24
83		Go-Live	1 day?	Thu 15/02/24	Thu 15/02/24

Open Banking

84		▲ Open Banking	151 days?	Fri 16/02/24	Fri 13/09/24
85		Implementation	66 days	Fri 16/02/24	Fri 17/05/24
86		Unit Testing - Internal	10 days?	Mon 20/05/24	Fri 31/05/24
87		Unit Testing - Fixes	5 days?	Mon 03/06/24	Fri 07/06/24
88		Sign Off - Unit Testing	1 day?	Mon 10/06/24	Mon 10/06/24
89		User Acceptance Testing - Industry	20 days?	Tue 11/06/24	Mon 08/07/24
90		UAT Fixes	10 days?	Tue 09/07/24	Mon 22/07/24
91		UAT Sign-Off	1 day?	Tue 23/07/24	Tue 23/07/24
92		Performance Testing - Industry	10 days?	Wed 24/07/24	Tue 06/08/24
93		Performance Testing Sign-Off	1 day?	Wed 07/08/24	Wed 07/08/24
94		End to End Testing Industry	10 days?	Thu 08/08/24	Wed 21/08/24
95		End to End Fixes	5 days?	Thu 22/08/24	Wed 28/08/24
96		Sign-Off - End to End Testing	1 day?	Thu 29/08/24	Thu 29/08/24
97		Training	5 days?	Fri 30/08/24	Thu 05/09/24
98		Migration Activities	5 days?	Fri 06/09/24	Thu 12/09/24
99		Go-Live	1 day?	Fri 13/09/24	Fri 13/09/24

The Supplier shall be mandatorily present in the Sites for Requirements Identification/Clarification, Acceptance Testing, Training, Go-live and Post Go-live onsite support during the Contract period. The Supplier shall submit detailed plan in the Project Plan.

14.0. Documentation Requirements

The following lists of required documentation are provided as both a minimal set and guideline. It is not intended that this list is exhaustive and bidders should extend this list of documentation to be provided as appropriate.

Documentation for Lot 1:

(a) Product Literature

- (i) Application Software: Overview, functionality, operations, detailed technical reference, security
- (ii) Program Design, Specification and Source Code (as a soft-copy)
- (iii) Specifications for messages and files

(b) End-user Documentation

- (i) User Manual data entry guidelines for all core screens and functions
- (ii) User Manual for APIs or Message Specification

(c) Operational Documentation

- (i) Technical Operations Guide - for NPS System Operators and Administrators including periodically schedule maintenance, data archiving, restore facilities, back-up, trouble-shooting, etc.
- (ii) Technical and operational specifications and guide for new participants

Documentation for Lot 2:

(a) Product Literature

- (i) Operating System: Overview, functionality, operations, detailed technical reference
- (ii) Hardware: Overview, functionality, operations, maintenance and diagnostics, detailed technical reference, upgrade availability, maximum capacity, performance characteristics, etc.
- (iii) System Utility Software: Clustering, Load Balancing, Data Exchange Management and Standards, Performance Monitors, Management Console, Standard Reports, Back-Up and Restore, Partitioning, etc.

- (iv) Network and Systems Management: Overview, functionality, operations, detailed technical reference, Security, configuration management, etc
- (v) VPN, IPS Management: Overview, functionality, operations, detailed technical reference
- (vi) Firewall: Detailed Specifications, Set-Up and maintenance of the Firewall, Anti-virus and Intrusion Prevention solution proposed.
- (b) Database Documents
 - (i) Overview, functionality, operations, maintenance and diagnostics, detailed technical reference, upgrade availability, maximum capacity, performance characteristics, back-up, recovery, etc.
 - (ii) Full standard sets of all available documentation
 - (iii) Documentation for Database Administration and Management facilities
- (c) Operational Manual
 - (i) Technical Operations Guide for System Operators and Administrators of the NPS
 - (ii) Interfaces to Network and Systems Management

15.0. Training Requirements

For Lot 1:

- (a) Technical Training for Application Software
- (b) Technical Training for Database Interfaces and Data Management
- (c) Technical Training for Interface Development
- (d) Technical Training for Operators and Administrators should cover at least:
 - (i) Start-of-Session
 - (ii) End-of-Session
 - (iii) Net Debit Limit Management
 - (iv) Batch and Real-time Processing
 - (v) Testing and Test Environment
 - (vi) Software Updates
 - (vii) Configuration Management and version control
 - (viii) Diagnostic Tools
 - (ix) Technical Performance Monitoring

- (e) If agreed to do so, the Supplier shall conduct the above-mentioned Technical Trainings during the Operational Support period pursuant to SOR 16.1(d)(iv).

For Lot 2:

- (a) Technical Training for Database
- (b) Technical and Operational Management Training for Operational Tools
- (c) Technical and Management Training for Operators, Administrators and Technical Support

16.0. Technical Support Requirements

For Lot 1:

- (a) A full and complete set of the application source code and detailed accompanying documentation
- (b) A full set of related detailed documentation for source code, its installation, set-up, testing and migration must accompany the required application source code and related utilities.
- (c) Technical Support must be available at three levels:
 - (i) First Level (In-house support conducted by the Purchaser)
 - (ii) Second Level (Remote support provided by the Supplier)
 - (iii) Third Level (On-site support provided by the Supplier)

- (d) Warranty and Operational Support:

For Lot 1(SW), a warranty period of at least 180 calendar days starting from the date of formal acceptance is expected.

Additionally, operational support is expected in the form of a Specialist that will be On-Site to support CBE and/or other Operators that have responsibility for managing NPS functions. This support is expected for a period of at least 45 days immediately post Go-Live.

- (e) Maintenance:

Maintenance Agreements for the operational management and maintenance of Off-The-Shelf and custom components that are delivered as part of this Engagement. These agreements are renewable on an annual basis. Due to the nature of this engagement, these agreements are for 24 hour operations, 7 days a week.

Ongoing support of the software, configuring and monitoring of alerts, bug-fixing of custom software, performance monitoring, security vulnerability monitoring and related aspects to ensure reliable and consistent performance.

The Maintenance contract begins after the end of the warranty period. The maintenance has to incorporate periodic on-site support in addition to the expected remote support. Incident logging and management procedures including classification of incident severity and response times have to be incorporated into an SLA. Periodic preventive maintenance is expected to minimise reactive maintenance.

For Lot 2:

(a) Technical Support must be available at three levels:

- (i) First Level (In-house support conducted by the Purchaser)
- (ii) Second Level (Local support provided by the Supplier)
- (iii) Third Level (On-site support provided by the Supplier/Developer)

(b) The supplier's appointed local agent or the supplier itself (in case it has presence in the Purchaser's country) in Primary Site and Back-up Site.

(c) Documentation Update:

- (i) Full detailed technical specification
- (ii) All international and industry standards adopted and any local standards adopted or used
- (iii) Detailed and updated documentation may be provided in Language.
- (iv) The supplier's local technical support agent, if applicable, must remain current and knowledgeable regarding the technical documentation.

(d) Warranty:

For Lot 2(HW), a warranty period of at least 2 years starting from the date of formal acceptance is expected.

Additionally, operational support is expected in the form of a Specialist that will be On-Site to support CBE and/or other Operators that have responsibility for managing NPS functions. This support is expected for a period of at least 45 days immediately post Go-Live.

(e) Maintenance:

Maintenance Agreements for the operational management and maintenance of Off-The-Shelf and custom components that are delivered as part of this Engagement. This agreement is renewable on an annual basis. Due to the nature of this engagement, these agreements are for 24 hour operations, 7 days a week.

Ongoing support of the hardware, configuring and monitoring of alerts, and ensuring environmental conditions for performance of hardware are monitored and maintained. Additionally, indication of critical spares and quantities that need to be kept by Purchaser need to be indicated.

The Maintenance contract begins after the end of the warranty period. The maintenance has to incorporate periodic on-site support in addition to the expected remote support. Incident logging and management procedures including classification of incident severity and response times have to be incorporated into an SLA. Periodic preventive maintenance is expected to minimise reactive maintenance.

17.0. Testing

Testing will be undertaken by each relevant party at the appropriate time: Unit Testing, User Testing, Integration Testing, Stress Testing and Final Acceptance Testing.

Specific Testing will be conducted against detailed Test Plans and scripts which are to be prepared by the Supplier in coordination with the Purchaser, according to a structured testing regime:

- (a) Functional Testing by module or sub-system
- (b) Functional and Integration testing of multiple modules and sub-systems
- (c) Functional and Integration testing of all modules and sub-systems
- (d) Formal Acceptance Testing covering the fully rolled-out functionality, integration and performance of the solution.

Testing must be conducted against prepared hard-copy Test Plans

Performance Testing will be undertaken as simulated stress testing to ensure that the specified volume throughput and related response times are achieved.

Section V - Conditions of Contract (COC)

A. Contract and Interpretation	1
1. Definitions	1
2. Contract Document	2
3. Corrupt and Fraudulent Practices	2
4. Interpretation.....	2
5. Language.....	2
6. Joint Venture, Consortium or Association	2
7. Eligibility	3
8. Notices	3
9. Governing Law	3
10. Settlement of Disputes.....	3
11. Inspection and Audit by the Purchaser	3
B. Subject Matter of Contract	4
12. Scope of Supply.....	4
13. Delivery and Documents	4
14. Supplier's Responsibilities	4
15. Purchaser's Responsibilities	4
C. Contract and Interpretation.....	4
16. Contract Price	4
17. Terms of Payment.....	4
18. Taxes and Duties	5
19. Performance Security	6
D. Intellectual Property	7
20. Copyright and Intellectual Property	7
21. Software Services and License Agreements	7
22. Confidential Information.....	7
E. Execution	7
23. Representatives	7
24. Project Planning and Performance.....	7
25. Sub-contracting.....	8
26. Specifications and Standards.....	8
27. Packing and Documents	8
28. Insurance	8

29. Transportation and Incidental Services	9
30. Inspections and Tests.....	9
31. Completion	9
32. Acceptance	9
F. Guarantees and Liabilities	9
33. Completion Time Guarantee	9
34. Warranty, Operational Support and Maintenance	9
35. Limitation of Liability	9
G. Risk Distribution	9
36. Transfer of Ownership.....	10
37. Change in Laws and Regulations.....	10
38. Force Majeure	10
39. Unforeseen Conditions	10
40. Change Orders and Contract Amendments	10
41. Extension of Time	10
42. Termination	10
43. Assignment	11
44. War Risk.....	Error! Bookmark not defined.
45. Supplier's Claim	11

Section V - Conditions of Contract (COC)

A. Contract and Interpretation

1. Definitions

1.1. The following words and expressions shall have the meanings hereby assigned to them:

1.1.1	Closing Time	The deadline date and hour for the receipt of bids
1.1.2	Contract	The written agreement entered into between the purchaser and the supplier and including all attachments, appendices thereto and all documents incorporated by reference therein
1.1.3	Contract Price	The price payable to the supplier under the contract for the full and proper or satisfactory performance of his contractual obligations
1.1.4	Corrupt Practice	The offering, giving, receiving, or soliciting of anything of value to influence the action of a CBE official in the procurement process or in contract execution.
1.1.5	Day	Calendar Day, unless otherwise specified.
1.1.6	Delivery	Delivery in compliance to the conditions of the contract or Purchase Order.
1.1.7	Force Majeure	An event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable.
1.1.8	Fraudulent Practice	A misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition
1.1.9	Goods	All of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
1.1.10	Performance Security	A guarantee or a bond from a successful tenderer's bank which should be provided by the successful tenderer to the procuring entity with the aim of compensation for any loss resulting from the tenderer's failure to complete its obligations under the contract
1.1.11	Purchase Order	An official written order issued for the supply of goods or works or the rendering of a service
1.1.12	On-Site	The physical address of CBE as indicated in Conditions of Contract
1.1.13	Purchaser	The entity purchasing the goods or procuring services i.e. the CBE.
1.1.14	Supplier	The successful bidder / tenderer who is awarded the contract to supply, maintain or administer (where applicable) the specified services and/or goods.

1.1.15	Tenderer	A prospective supplier who has submitted a bid or proposal for the tender.
--------	----------	--

2. Contract Document

- 2.1. All documents forming the Contract (and all parts thereof) and all contents are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

3. Corrupt and Fraudulent Practices

- 3.1. The Purchaser requires compliance with its policy in regard to corrupt and fraudulent practices.
- 3.2. The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

4. Interpretation

- 4.1. In the Contract, except where the context requires otherwise:

- (a) words indicating one gender include all genders;
- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word “agree”, “agreed” or “agreement” require the agreement to be recorded in writing;
- (d) “written” or “in writing” means hand-written, type-written, printed or electronically made, and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions

5. Language

- 5.1 The language of the communication - both written and spoken for engagements relating to the National Payment Switch will be English. It is therefore an expectation that all vendors and sub-contractors that are included in this bid are proficient thereof.

6. Joint Venture, Consortium, Business Partnership or Association

6.1. If the Supplier is a joint venture, consortium, business partnership or association, all of the members shall be jointly and severally liable to the Purchaser for the fulfilment of the provisions of the Contract and shall designate one party to act as a representative with authority to bind the joint venture, consortium, business partnership or association, except the event of the Contract signing, which shall require all members to duly sign. The composition or the constitution of the joint venture, consortium, business partnership or association shall not be altered without the prior consent of the Purchaser.

7. Eligibility

7.1 The Supplier and its Sub-contractors shall have the nationality of an eligible country. A Supplier or Sub-contractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.

8. Notices

8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address below:

8.2 To the Purchaser: Postal - PO Box 546

Mbabane

H100

Physical - Mahlokohla Street

Mbabane

Eswatini

To the Supplier: [To be inserted when known]

8.3 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

9. Governing Law

9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Kingdom of Eswatini.

10. Settlement of Disputes

To be incorporated as part of Contract Engagement.

11. Inspection and Audit by the Purchaser

To be incorporated as part of Contract Engagement.

B. Subject Matter of Contract

12. Scope of Supply

The Supplier needs to meet the implementation Requirements as detailed in Section IV: 12.1 - 12.2.

13. Delivery and Documents

To be incorporated at Contract Engagement stage.

14. Supplier's Responsibilities

To be incorporated at Contract Engagement stage.

15. Purchaser's Responsibilities

To be incorporated at Contract Engagement stage.

C. Contract and Interpretation

16. Contract Price

- 16.1 Prices charged by the Supplier for the Products supplied and the Related Services performed under the Contract shall not vary from the prices (including Recurrent Costs) quoted by the Supplier in its bid, with the exception of any price adjustments authorized.
- 16.2 Additional charges shall be claimed by the Supplier for any extra works and services performed in pursuance of SOR 7.2, SOR 12.3(b), SOR 16.1(c)(iii), SOR 16.1(d)(iv), COC 15.2, COC 15.4, COC 39.2, COC 40.5, COC 41.4, and other clause in this Bidding Documents, at the rate of:
- (a) For daily labour cost per person: USD x
 - (b) For international trip and accommodation: Actual expenses incurred

17. Terms of Payment

- 17.1 The CBE terms of payment are that payments are processed within 30 days of the Invoice date.
- 17.2 The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:
- (a) Unless specifically noted otherwise, the payments will be made by bank transfer to the Supplier's bank account. The Purchaser shall bear all banking and/or intermediary expenses associated with the payment
 - (b) Advance Payment: *xx%, conditions of payment, etc.*
 - (c) On Delivery: *xx%, conditions of payment, etc.*
 - (d) On Acceptance: *xx%, conditions of payment, etc.*
 - (e) After Acceptance: *xx%, conditions of payment, etc.*
 - (f) Payments for Maintenance Service: *xx%, conditions of payment, etc.*

Note that "xx%" and conditions of payment will be agreed at Contract Engagement stage.

18. Taxes and Duties

- 18.1 A foreign supplier shall be entirely responsible for all taxes, including withholding tax (15%) and any other such levies imposed in Eswatini. Please refer to the following extract from the Eswatini Tax legislation:

"Withholding Tax on Payments to Non Resident Contractors

This applies to any person who makes payment, a result of an agreement relating to construction operations, to a person whose principal place of business is outside Eswatini. This withholding tax is on account of the liability of the non-resident. The withholder should furnish the non-resident person with a certificate showing amount of the payment under the agreement and tax deducted.

Withholding Tax on Payments Non Resident Persons

A person who makes payment to any non-resident person is required to withhold tax on the gross amount resulting from a contract, which has a Swati source of income excluding an employment contract. The main purpose of the contract should be the performance of a service. Goods supplied in the performance of the service shall be excluded from the calculation of the tax as they are only incidental i.e. a non-resident mechanic who comes with tools and service parts will be liable to such tax on the labour fees only not the service parts.

Non-Resident Withholding Tax on Royalties and Management Fees

Every person who makes any payment of royalty or management fee or both to a person not ordinarily resident in Eswatini is required to withhold tax. The tax is final and a certificate should be furnished to the non-resident person.

Sportsmen and Entertainers

This is imposed on any remuneration paid to, or the gross receipts of, public entertainers, sportsman, theatrical, and musical, group of public entertainers from outside Eswatini or not ordinarily resident in Eswatini. Withholding such tax is a responsibility of the local agent, promoter or any other person making payment to the non-resident.”

- 18.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods or services to the purchaser.

19. Performance Security

- 19.1 The Supplier shall provide the securities specified below in favour of the Purchaser at the times, and in the amount, manner and form specified below.

19.2 Payment Security:

- (i) For Lot 1:

Milestone Event	Target Month	% reduction
Requirements Identification/Clarification	2	50%
Program Design Documents Accepted	3	50%

- (ii) For Lot 2:

Milestone Event	Target Month	% reduction
Initial Delivery	1	20%
Complete Delivery	4	80%

19.3 Performance Security:

- (i) For Lot 1:

Milestone Event	Target Month	% reduction
Requirements Identification/Clarification	2	15%
Program Design Documents Accepted	3	25%
Integration Testing Completed and Accepted	9	30%
Acceptance Testing Completed and Accepted	10	20%
Completion of Post “Go Live” Support	11	10%

- (ii) For Lot 2

Milestone Event	Target Month	% reduction
-----------------	--------------	-------------

Initial Delivery	1	0%
Complete Delivery	4	40%
Primary and Back-Up Environments Set-Up	5	20%
Operation/Administration Training Completed	11	10%
Completion of Post “Go Live” Support	11	30%

D. Intellectual Property

20. Copyright and License Agreements

To be incorporated at the Contract Engagement stage.

21. Source Code of Custom Software

To be incorporated at the Contract Engagement stage.

22. Confidential Information

- 22.1 No part of this document may be disclosed verbally or in writing, including by reproduction, to any third party without the prior written consent of the CBE. This document, its associated appendices and any attachments remain the property of the CBE and shall be returned upon request.

E. Execution

23. Representatives

23.1 Purchaser’s Representative

To be confirmed and finalised at Contract Engagement phase.

23.2 Supplier’s Representative

To be confirmed and finalised at Contract Engagement phase.

24. Project Planning and Performance

- 24.1 The Supplier shall develop, in close cooperation with the Purchaser, and based on the Preliminary Project Plan included in the Supplier’s bid, an Agreed and Finalized Project Plan encompassing the activities specified in Section 4 (Schedule of Requirements).

- 24.2 The Agreed and Finalized Project Plan will be prepared by the Supplier and approved by the Purchaser.
- 24.3 If required, the impact on the Implementation Schedule of modifications agreed during finalization of the Agreed and Finalized Project Plan shall be incorporated in the Contract by amendment, in accordance with COC 40 (Change Orders and Contract Amendments).
- 24.4 The Supplier shall undertake to supply, install, test, and commission the IT Products and/or Services in accordance with Section 4 (Schedule of Requirements) and Agreed and Finalized Project Plan.
- 24.5 The progress report shall be prepared by the Supplier and submitted to the Purchaser in the format agreed and frequency of at least once a month.
- 24.6 If at any time the Purchaser's actual progress falls behind the project schedule described in the Agreed and Finalized Project Plan, or it becomes apparent that it will so fall behind, the Supplier shall, at the request of the Purchaser or the Project Coordinator, prepare and submit to the Project Coordinator a revised project schedule, taking into account the prevailing circumstances, and shall notify the Project Coordinator of the steps being taken to expedite progress so as to attain completion within the Time agreed, any extension thereof entitled under COC 41 (Extension of Time), or any extended period as may otherwise be agreed upon between the Purchaser and the Supplier.

25. Sub-contracting

Sub-contractors are bound to the same standards as agreed to and contracted to with the Supplier.

26. Specifications and Standards

The Standards as detailed in the "Section IV - Schedule of Requirements" sub-section 9.3 and 9.7 are applicable.

27. Packing and Documents

The Supplier shall provide such packing of the Products, at its cost, as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, the packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the products' final destination and the absence of heavy handling facilities at all points in transit.

The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract.

28. Insurance

To be incorporated at the Contract Engagement stage.

29. Transportation and Incidental Services

To be incorporated at the Contract Engagement stage.

30. Inspections and Tests

To be incorporated at the Contract Engagement stage.

31. Completion

To be incorporated at the Contract Engagement stage.

32. Acceptance

To be incorporated at the Contract Engagement stage.

F. Guarantees and Liabilities

33. Completion Time Guarantee

To be incorporated at the Contract Engagement Stage

34. Warranty, Operational Support and Maintenance

The Warranty, Operational Support and Maintenance will be as described in “Section IV - Schedule of Requirements”, Sub-section 16.0.

35. Limitation of Liability

To be incorporated at the Contract Engagement stage.

G. Risk Distribution

36. Transfer of Ownership

- 36.1 The ownership of the IT Products and/or Services shall be transferred to the Purchaser at the time of Delivery or otherwise under terms that may be agreed upon.
- 36.2 Ownership and the terms of usage of any Software and Documentation supplied under the Contract shall be governed by COC 20 (Copyright and License Agreements).
- 36.3 Ownership of the Supplier's equipment used by the Supplier and its Sub-contractors in connection with the Contract shall remain with the Supplier or its Sub-contractors.

37. Change in Laws and Regulations

To be incorporated at the Contract Engagement Stage

38. Force Majeure

To be incorporated at the Contract Engagement Stage

39. Unforeseen Conditions

To be incorporated at the Contract Engagement Stage

40. Change Orders and Contract Amendments

To be incorporated at the Contract Engagement Stage

41. Extension of Time

To be incorporated at the Contract Engagement Stage

42. Termination

42.1 Termination for Default

To be incorporated as part of Contract Engagement.

42.2 Termination for Insolvency

To be incorporated as part of Contract Engagement.

42.3 Termination for Convenience

To be incorporated as part of Contract Engagement.

42.4 Termination by Supplier

To be incorporated as part of Contract Engagement

43. Assignment

Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

44. Supplier's Claim

- 44.1 If the Supplier considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any clause of these Conditions of Contract or otherwise in connection with the Contract, the Supplier shall submit a notice to the Project Coordinator, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than forty (40) days after the Supplier became aware, or should have become aware, of the event or circumstance.
- 44.2 If the Supplier fails to give notice of a claim within such period of forty (40) days, the Time for Completion shall not be extended, the Supplier shall not be entitled to additional payment, and the Purchaser shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Sub-Clause shall apply.
- 44.3 The Supplier shall also submit any other notices which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.
- 44.4 The Supplier shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Coordinator. Without admitting the Purchaser's liability, the Project Coordinator may, after receiving any notice under this Sub-Clause, monitor the record-keeping and/or instruct the Supplier to keep further contemporary records. The Supplier shall permit the Project Coordinator to inspect all these records, and shall (if instructed) submit copies to the Project Coordinator.
- 44.5 Within fifteen (15) days after receiving a claim or any particulars supporting a previous claim, or within such other period as may be proposed by the Project Coordinator and approved by the Supplier, the Project Coordinator shall respond with approval, or with disapproval and detailed comments. The Project Coordinator may also request any necessary further particulars, but shall nevertheless give his/her response on the principles of the claim within such time.
- 44.6 Each payment certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Supplier shall only be entitled to payment for such part of the claim as he has been able to substantiate.
- 44.7 The Project Coordinator shall agree with the Supplier or estimate:

- 44.8 the extension (if any) of the Time for Completion (before or after its expiry) in accordance with COC 41 (Extension of Time), and/or
- 44.9 the additional payment (if any) to which the Supplier is entitled under the Contract.
- 44.10 In the event that the Supplier and the Purchaser cannot agree on any matter relating to a claim, either Party may refer the matter to the Settlement of Disputes procedures pursuant to COC 10 (Settlement of Disputes) hereof.

End of Document