

Central Bank of Lesotho



REQUEST FOR INFORMATION (RFI) FOR THE SUPPLY, I MPLEMENTATION AND MAINTENANCE OF NATIONAL PAYMENTS SWITCH

Release Date: **29 June 2020**

Last date for receipt of responses: **24 July 2020**

Time: **14:30pm**

Name of Main Product	
Name of organisation (full corporate name and any relevant business name(s))	
<ul style="list-style-type: none"> • Postal address 	
<ul style="list-style-type: none"> • Tel number 	
<ul style="list-style-type: none"> • Fax number 	
<ul style="list-style-type: none"> • E-mail address 	
Name of main vendor contact person	
<ul style="list-style-type: none"> • Postal address 	
<ul style="list-style-type: none"> • Tel number 	
<ul style="list-style-type: none"> • Fax number 	
<ul style="list-style-type: none"> • E-mail address 	
Name Vendor's Representative	
Signature of Vendor's Representative	
Date	

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1 GENERAL INFORMATION

1.1 Introduction

The Central Bank of Lesotho in collaboration with key stakeholders, has embarked on payments systems modernization journey since 2004. The payments systems modernizations roadmap consisted of several projects, including but not limited to, Legal framework, Real Time Gross Settlement (RTGS) system, Automated Clearing House (consisting of Electronic file transfer (EFT) and Cheque truncation system (CTS)) have been implemented. Implementation of card switch has pending from the initial roadmap. Given the time since development for the roadmap and technological innovations and developments in the payments systems, as outlined below, it was deemed prudent to re-think implementation of the card switch:

- Digital payments service providers and mobile network operators (MNOs) as issuers of electronic money (e-money). This development has brought about new payments channels such as stored value (otherwise known as e-wallets – Ecocash, Mpesa, Khetsi, etc). Interoperability is still a challenge among these new innovations as it is the case with traditional channels such as debit cards, credit cards, point of sales devices (POS), Automated Teller Machines (ATMs) and internet based transactions.
- Financial Sector Development strategy (FSDS). One of the key financial sector development strategy is financial inclusion and among critical initiatives to achieve this objective is implementation of national switch. This national switch should not just be a card switch, but a modern switch that can handle emerging payment channels.
- Indigenous banks. When the road map was developed, there were only three banks which are subsidiary of South African Banks. These banks were using South African platforms to clear and settle cards. With licensing of Government owned Post Bank, which does not have subsidiary in a foreign country with switching infrastructure, the need to put in place a domestic switch to level playing field, is now more urgent.

On the basis of foregoing, it became prudent that there is need to re-think the initial design and scoping on the card switch project, in order to meeting current and emerging switching trends. Consequently, as part of the evolution of the payment system modernisation, CBL have embarked on a multi-phase initiative to modernise the current payment clearing and settlement ecosystem and infrastructure in order to better support the long-term effectiveness and efficiency of the Lesotho economy. One of these initiatives is to implement a National Payments Switch.

1.2 Project description

The project's main objective is to find an efficient, manageable and cost effective solution to address the current and future interoperability of payment services. The solution should also allow the Bank together with participants to further refine and develop their product and service offering capacity.

Primary Driver	Supporting Objectives
<p>1. Facilitate interoperability between the commercial banks, the MNOs and the digital payments providers – i.e. all participants operating in Lesotho</p>	<ul style="list-style-type: none"> • The participants' systems should be able to intercommunicate for the purpose of facilitating and processing payments, regardless of their underlying technology stack and core application systems • The consumer must be able to initiate a transaction (transfer of value) on a channel offered by a participant and conclude the transfer on a different channel provided by another participant • It must be possible to reduce the need for multiple POS (and e-Money) access point infrastructures deployed at merchants. Payments must be facilitated seamlessly between acquiring participant end point devices and the issuing/homing participant without human intervention. • Payments must be automated (STP) with limited additional costs (interchange) to the consumer
<p>2. Level the playing field for all participants</p>	<ul style="list-style-type: none"> • The Switch must provide standardized access for MNOs and digital payments providers to the commercial banks' services (e.g. ATM, EFT)

	<ul style="list-style-type: none"> • Larger participants (with reference to market share and/or transaction volumes) must not unfairly influence the market and must avoid exclusive agreements with other stakeholders which may result in anti-competitive outcomes or barriers to entry for smaller participants • The rules within a specific payment stream should apply equally for all participants in that stream • Participants licensed to operate in a payment stream must be a member of the industry work group for that specific stream and must contribute to the definition of rules and operational decisions
<p>3. Reduce the barriers to entry.</p>	<ul style="list-style-type: none"> • There should be no agreements between participants or operational conduct that raises a barrier to participation in a payment stream • If an entity complies with the licensing rules applicable to a given payment stream, then they must be able to participate in that payment stream • The governance, participation and funding model must be transparent and must support fair participation. It must avoid the creation of barriers to entry by favouring certain participants, thereby resulting in anti-competitive behaviour as an unintended consequence
<p>4. Create a platform that will enable the CBL to</p>	<ul style="list-style-type: none"> • The objective of the Switch is to ultimately drive down transactional fees to the end customer

<p>drive down costs from an operational perspective</p>	<ul style="list-style-type: none"> • The introduction of interchange and inter-participant fees must be a focus area with the objective of limiting the impact on the participants and ultimately on the end customer • The Switch program should seek innovative solutions to solve or at least minimise the international card fee (2%) • The new Switch should be conscious of avoiding the introduction of additional costs and interchange fees, and must look for innovative cost-efficient approaches for its funding model • Create incentives for participants to bring more transaction volumes to the Switch. For example, incentives could be offered to make it attractive for the consumer to migrate from the current cash transactions to a payment instrument facilitated by the Switch
<p>5. Enable the creation of a cash-lite society</p>	<ul style="list-style-type: none"> • Introduce additional payment channels and products. As an example, e-Money products could offer an attractive instrument that provides for the consumer convenience and security in terms of storage, and safety in transacting • Introduce incentives as part of the National Payment Switch change management program to influence consumer behaviour and promote adoption of payment instruments other than cash (e.g. loyalty points or competition draws) • Set defined targets for reducing cash transactions and/or cash in circulation

	<ul style="list-style-type: none"> • The Switch must offer a platform and the rails that will facilitate innovative new products entering the market from the participants' competitive space
6. Create an environment in which the operational capacity of the existing domestic payment and settlement systems can be improved and can meet the needs of emerging payment channels	<ul style="list-style-type: none"> • The Switch should be future-proofed and be able to expand to include new products such as Instant Payments, Pay by Proxy, Request to Pay and other emerging payment channels • The Switch platform must be flexible, modular, agile and scalable • The Switch should improve operational efficiency of existing streams through the reduction of costs and improved processes
7. Consolidate all activities under a common platform for integrated monitoring, oversight and management of the National Payment System.	<ul style="list-style-type: none"> • The Switch must enable full oversight and monitoring capabilities for the CBL in its role as the regulator and as the operator • All obligations, liquidity utilisation levels and other associated factors that contribute to credit and systemic risk mitigation and financial system stability must be made visible for all payment streams • The Switch must support the addition of AML/CFT and sanction screening capabilities as part of a phased approach
8. Improve access to the financial system for low income stakeholders (this is a key national strategic objective)	<ul style="list-style-type: none"> • This outcome would largely be the consequence of achieving all the objectives defined above • The Switch must facilitate access to the financial system for all people (i.e. it must create the

	<p>platform that enables consumers to transact anywhere at low cost)</p> <ul style="list-style-type: none">• An innovative approach to determine credit worthiness of a borrower could include the development of a credit profile based on an analysis of the way in which the consumer uses the e-Money channel over time in managing their financial affairs. The Switch could facilitate the collection of this information regarding an un-banked person who regularly uses the e-Money channel
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The project is to ensure a seamless integration with Real Time Gross Settlement (RTGS) and participant systems. The information systems and technologies will be provided, installed and supported by application system vendor(s); however, the Bank will define business and performance requirements to determine essential features of the systems and technologies to be deployed.

The vendors must therefore specify the functionalities that their solution will provide to achieve this objective with and/or without customisation.

This document constitutes the formal Request for Information (RFI) for the supply, implementation and maintenance of a national payment switch.

1.3 Methodology

The RFI calls for each of the solution providers to propose a solution for the requirements stated in this document. The solution provider may be a single firm or multiple firms coming together in a consortium arrangement to supply and implement the solution. However, the extent and nature of the joint submission must be disclosed. In addition, the lead vendor must be a provider of a core payments switch.

This document sets out the detailed requirements of CBL, which need to be considered for any proposed solution.

Vendors responding to this RFI must comply with the requirements for responses set out in Section 2.

The next steps and target dates of the project are summarised below:

Milestone	Responsible	Start	Finish
Issue RFI to vendors	Project Team	29 Jun 2020	
Vendors to submit any queries / clarifications via e-mail to designated e-mail address	Vendors	29 June 2020	17 July 2020
Vendors to submit responses to RFI by no later than 14:30hrs	Vendors	24 July 2020	24 July 2020
Review RFI responses and agree shortlisted vendors	Project Team	27 Jul 2020	14 Aug 2020
Project Board: Outcome of RFI and agreement on vendors for the proposed RFP process (Next Phase of the Project)	CBL	End of Sept 2020	

2 VENDOR RESPONSE PROCESS

This section explains the mechanics for responding to this RFI, and the required vendor responses.

2.1 Proposal Response

Vendors must submit responses in accordance with the requirements contained in this RFI, and provide an individual to act as the principal contact, giving telephone, fax and e-mail addresses, current position/title, and expected role in the proposal/implementation. If the responding entity is a consortium of firms, the contact should be from the lead vendor.

Vendor responses to this RFI should include answers and descriptions in support of the items detailed in Appendices I – VI to this RFI. Vendors should provide indicative costs covering the software, implementation support, consultancy, ancillary items and ongoing support necessary to meet CBL's requirements.

2.2 The RFI response must contain the following:

- Appendix I – General information and specific issues to be addressed
- Appendix III – Detailed Functional and Technical Requirements
- Appendix IV – Implementation Timetable
- Appendix V – Implementation Resource Matrix
- Appendix II – Indicative costs

This RFI has been issued with the understanding that vendors will not charge for the response to the RFI or for any presentations that may need to be made to the project team.

2.3 Summary of RFI Appendices

Appendix I – General information and specific issues to be addressed

These relate to general information about the vendor and specific issues faced by CBL in relation to their key national payments switch processes, and these provide the vendor with the opportunity to provide some qualitative responses as well as high-level functionality information.

Appendix II – Indicative Costs

Vendor must provide detailed indicative costs for the supply, implementation and maintenance of the national payments switch. All costs should be quoted in US \$.

Appendix III – Detailed Functional and Technical Requirements

This contains a detailed list of specific functional and technical requirements/queries. The listed requirements are wide-ranging and include current known requirements. Vendor responses should be based on the capabilities of their payment switch system package/modules. However, where additional modules and/or packages can be used to meet more of the listed requirements, these can be included in the response, provided that they are clearly differentiated from the core package, and associated costs and interface issues are also covered. Please note that it is critical that you provide details for product or system functionality that is not explicitly shown as a menu option, but for which workarounds are possible.

Appendix IV – Implementation Timetable

Detailed implementation project timetable, to be completed by vendor in Gantt chart format.

Appendix V – Implementation Resource Matrix

Matrix detailing anticipated vendor and CBL resource requirements during the duration of the project. To be completed by vendor in the supplied format.

2.4 Submission of Responses

Responses to this RFI must be submitted electronically and provided as attachments to an email and should be emailed to mlechela@centralbank.org.ls. The subject of the email should read “**RFI RESPONSE FOR THE SUPPLY, IMPLEMENTATION AND MAINTENANCE OF NATIONAL PAYMENTS SWITCH**” Responses must be provided as a PDF attachment to the email. Only electronic responses will be accepted.

2.5 Deadline for the submission of responses

Responses should be received on or before Friday, **24th of July 2020, 14:30hrs.**

Responses received after the above-specified date and time shall not be considered.

2.6 Cost of responding

The respondent shall bear all costs associated with the preparation and submission of its response, and CBL will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the responding process.

2.7 Clarification of response document

All correspondence related to the RFI document shall be made in English and in writing. Enquiries made or clarifications sought by telephone will be rejected. Respondents may only seek clarification in respect of the RFI documents and these shall only be addressed up to **17th of July 2020 at 17h00**. No telephonic requests will be accepted and may lead to the disqualification of such vendor.

The queries and replies thereto shall then be posted weekly on the Bank's website for all other prospective respondents to access.

Enquiries for clarifications should be sent by e-mail to mlechela@centralbank.org.ls on behalf of the project team.

2.8 Amendment of RFI document

At any time prior to the deadline for submission of responses, CBL, for any reason, whether at its own initiative or in response to a clarification requested by a prospective respondent, may modify the RFI documents by amendment.

The addendum will be posted on the Bank's website for all prospective respondents to access, and such amendment will be binding on them. To allow prospective respondents reasonable time to take any amendments into account in preparing their responses, CBL project team may at its sole discretion extend the deadline for the submission of responses based on the nature of the amendments.

2.9 Responsiveness of the RFI

A responsive RFI is deemed to contain all documents or information specifically called for in this RFI document.

2.10 Evaluation criteria

Responses will be evaluated in a comprehensive manner against a range of criteria, some of which are outlined below:

- Closeness of fit of proposed solution to the functional requirements, including breadth and depth of product coverage and functionality
- Implementation of the product offering at other Central Banks
- Design of the proposed solution, including modularity and architecture, and the ease with which the proposed system can be delivered, operated and supported both domestically and internationally
- Reliability and performance of the software, demonstrated by a proven track record in other customer sites
- Proven implementation ability of the supplier organization in delivering similar solutions (specifically with reference to Central Banks and implementations in the Africa market)
- Support capability of the organization, including installation assistance, technical support, user training, and ongoing software maintenance
- Estimated costs of system implementation, ongoing support and financial capacity of the vendor

-
- Time and resources required for complete systems implementation
 - Risks associated with the proposed solution and its implementation
 - Resource quality, e.g., quality of staff, depth of understanding shown in response and at demonstrations
 - Integration with other identified applications and overall fit in systems strategy and architecture as outlined in Section 4
 - Contractual terms

During the evaluation process, the project team may request clarification of responses.

NOTE: (3. Functional Requirements)

Appendix III (Section 7 of this document)

Please use the following options to indicate the “DEGREE OF SUPPORT” your solution provides for each of items listed in this Appendix:

1. FS – (Fully Supported) the application fully supports the requirement without any workarounds or modifications.
2. RP – (Requires parameterisation) the application supports the requirement with use of a system or workflow workaround.
3. RC – (Requires Customisation) the application requires modification in order to support the requirement.
4. NS – (Not Supported) the system is not capable of supporting the requirement and cannot be modified to accommodate the requirement.

2.11 Qualification for the proposed selective RFP Tender process (next phase)

2.11.1 Qualification Criteria

The CBL team will shortlist a selected number of vendors who will participate in a proposed selective RFP tender process.

2.12 Other instructions

2.12.1 Cost structure

All responses should detail the proposed costs as requested.

2.12.2 Taxes

The indicative prices and rates to be provided will be deemed to be exclusive of domestic taxes.

2.12.3 Currency for Pricing of the Response to the RFI

Indicative Costs pertaining to the RFI response should be expressed in United States Dollars (US\$). Proposals in other currencies shall not be permitted.

2.12.4 Language of the proposal

The RFI response shall be written in the English Language. All correspondence and other documents pertaining to the proposal and its implementation shall also be in English.

3 CURRENT NATIONAL PAYMENTS SWITCH OPERATING ENVIRONMENT

3.1 Governance and Participation Framework

The Central Bank of Lesotho is fully owned by the Lesotho government.

The **Payments Association of Lesotho (PAL)** is owned jointly by the banks and Central Bank of Lesotho. Membership of PAL is mandatory for participants in the settlement system.

PAL, through the Payments Systems Council, acts as an advisory body to CBL. Participants in the various payment streams will organise under PAL structures and industry work groups are established under the Payment Systems Council. However, the operating rules fall under the jurisdiction of the CBL Payments and Settlements Department, specifically the PAL Operations Division.

The PAL Board consists of the following members:

- CBL Governor.
- CBL Deputy Governor II
- CEOs of the commercial banks
- CBL Director Operations
- CBL Director Payments and Settlements

The Payment Systems Council is mandated by the CBL and consists of the following members:

- The PAL Board members
- Ministry of Finance
- CEOs of MNOs and FinTech's
- Consumer Organisation Representatives for the Chamber of Commerce, Lesotho Communications Authority, and the electricity utility service provider LEC.

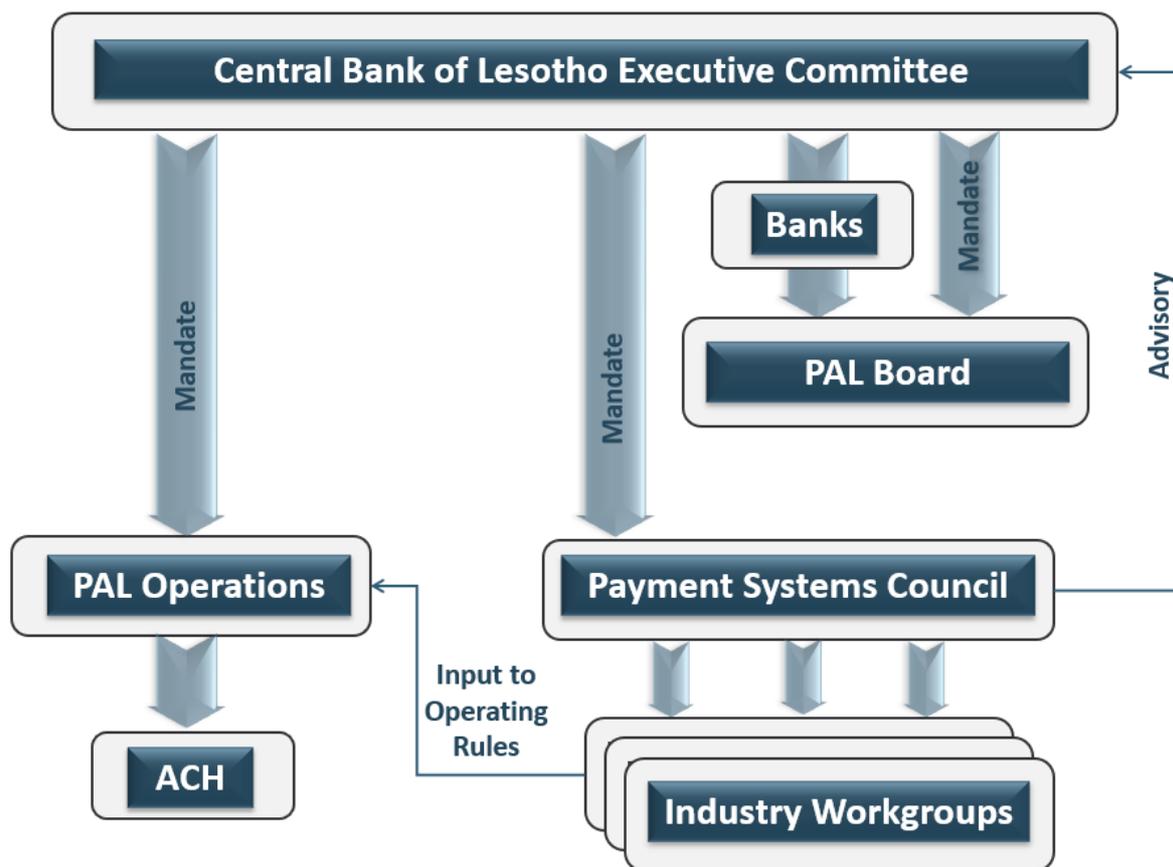


Figure 1 - Governance and Participation structure (current)

3.2 Legal Framework

The legal framework of the Lesotho National Payment System is provided by a number of elements:

1. The Central Bank Act of 2000.
2. The Payment Systems Act of 2014. This act defines and mandates the Payments System Management Body (PSMB).
3. The Payment Systems (Issuers of Electronic Payments Instruments) Regulations of 2017. These regulations include the licensing of the eMoney issuers as well as Know Your Customer (KYC) expectations. The latter include the use of national identity documents and potentially a future national digital ID.
4. Operating rules are created and issued by the CBL Payments and Settlements Department. Participants accept compliance with these rules through the Adhesion Agreement linked to each set of rules.

-
- RTGS
 - EFT
 - Cheque
 - SADC RTGS rules (the so-called Beige Book) is issued and maintained by the SADC Banking Association

3.3 Regulatory Compliance Framework

The Financial Intelligence Unit (FIU) is an independent body housed at the CBL. It is responsible for Anti Money Laundering (AML) and Combatting Funding of Terrorism (CFT) screening. Sanction screening is performed as part of these screening activities. The legal burden is on the banks to perform screening on transactions, but it is expected that another layer of screening would be required at the new National Payment Switch.

Compliance with general standards and industry principles is managed by the Payments and Settlements Department. These include:

- SWIFT Customer Security Framework (CSF)
- BIS/IOSCO Principles for Market Infrastructures (PFMI)
- BIS Cyber Resilience Guidelines
- PCI-DSS Card security standards
- International best practice

The Information and Communication Technology Standards (ICTS) working group of the Payments Council will determine how best practices and standards will be implemented. This would include the migration to ISO20022.

The Oversight Division in the Payment and Settlement Systems Department also play a role in ensuring compliance. Traditionally this oversight role focused on the banks but is expected to broaden to include MNOs and FinTechs as these entities enter the payments domain and become increasingly subject to relevant regulatory expectations.

3.4 Payment System Landscape

The development of the financial sector is strategic for Lesotho. The objectives speak to (amongst others) the modernization of the payments systems to help strengthen the

financial sector, as well as the need for broadening the base through financial inclusion and interoperability.

3.4.1 Wholesale Payments and Settlement

The settlement of high-value electronic transfers and urgent low-value transfers are managed on a real-time gross settlement basis through the Lesotho Wire System (LSW). LSW further provides settlement of the inter-bank obligations arising from the clearing operations related to EFT and Cheque managed by PAL Operations.

The settlement of inter-bank obligations arising from card transactions currently fall outside LSW and CBL has no visibility of these transactions or the resultant inter-bank obligations.

Participants interact with LSW via SWIFT. Currently this interaction is based on SWIFTNet FIN MT message structures, but this will be migrated to SWIFTNet InterAct services and ISO20022 message structures as part of the global standards harmonisation program.

3.4.2 EFT and Cheque

Low-value non-urgent EFT credits and EFT debits (collections) are processed via the PAL Operations ACH system. This same system also provides cheque processing services.

The inter-bank obligations arising from the clearing operations are settled in LSW. Currently settlement takes place at the end of the day's processing. The longer-term objective is to migrate LSW to 24 x 7 and to introduce multiple intra-day settlement windows based on elapsed time or exposure limits.

3.4.3 Card

With the exception of indigenous bank, card processing is essentially run from the South African head offices of the Lesotho-based subsidiaries. This includes the processes related to card issuing and transaction acquiring. The POS terminal management is also performed from South Africa and not from the subsidiary's infrastructure in Lesotho.

Credit cards issued for the customers of South African banks' Lesotho subsidiaries do not have a dedicated BIN licensed from a card association for this purpose. The cards are issued by the head office under a country code of RSA and a currency code of ZAR and are therefore treated as South African card transactions by MasterCard and Visa.

The head office generally allocates card ranges or BIN ranges to their Lesotho subsidiaries in order to identify Lesotho transactions and process these separately from the South African card transactions in the core banking systems of the Lesotho subsidiaries. The Lesotho subsidiary plays no part in the processing of the transaction, other than receiving the outcome of the transaction as a debit or credit in their core banking system ledgers.

The interbank obligations are determined out of this processing in South Africa and settled over the head office banks' settlement accounts in the South African RTGS system, based on obligations submitted by MasterCard, Visa and BankservAfrica, as payment system operator settlement participants in SAMOS. CBL has no visibility of these obligations.

One indigenous bank has not yet issued credit cards but operate a closed debit card based on a BIN/IIN obtained from ISO. This bank would be at a distinct disadvantage, as a Lesotho-registered BIN would attract the additional 2% international card fee from card associations, whereas the other banks avoid this by issuing and acquiring against a South African BIN in Lesotho as well as in South Africa.

Except for one of the Lesotho subsidiary banks, debit cards are issued under a Lesotho BIN license. Because the Lesotho POS devices are managed under a South African acquiring license, debit cards attract the 2% international card fee even when they are used in Lesotho. Generally speaking, these costs are however absorbed by the banks involved and therefore not passed on to the consumer.

The current card processing arrangement does not comply with modern data sovereignty rules (BIS), avoids the credit risk and systemic risk monitoring of CBL, and potentially contravenes FATF cross-border regulations.

3.4.4 eMoney

Currently there are three eMoney service offerings active in Lesotho. These are:

- EcoCash (EcoNet)
- MPESA (Vodacom)
- KHETSI (PostBank)

Others are expected to follow soon from the Fintech companies and probably also from some of the other commercial banks.

Under the Payment Systems (Issuers of Electronic Payments Instruments) Regulations of 2017, MNOs and Fintechs must hold trust accounts at a commercial bank with the same

value as that issued under their schemes. This is to mitigate the credit risk associated with deposit holding, and which licensed commercial banks are allowed to do as part of their regulations.

There is no interoperability between the various eMoney offerings and each of these operate on a closed loop basis.

3.5 Regional Initiatives

There are three SADC regional cooperation initiatives at varying levels of maturity that could potentially influence the Lesotho National Payment System. None of these are however relevant to the Lesotho payment system landscape in the short term and remain out of scope for this project.

- SADC RTGS (formerly SIRESS)
- Transactions Cleared on an Immediate Basis (TCIB) – a pilot project looking at affordable cross-border remittances utilising MNO interoperability cross border via a central Switch.
- Regional ACH – currently EFT credits

4 APPENDIX I – GENERAL INFORMATION & SPECIFIC ISSUES TO BE ADDRESSED

In this appendix it is requested that vendors provide information about their system and its capabilities in the light of the processes and requirements set out in this RFI.

Please provide full answers to the following questions, using examples and illustrations as appropriate:

4.1 General Information from Vendor(s)

4.2 Reference Sites – Southern Africa, Africa & Globally

Please provide three (3) reference sites and for each reference the following information:

Letter of no objection, is required from each site, allowing CBL to conduct a site visit and seek further information.

No	Reference site	Site-1	Site-2	Site-3
a.	Name of Institution?			
b.	Name and address of contact person including name, current position/title, address, telephone and e-mail address?			
c.	Estimated number of staff at this site?			
d.	Estimated number of payments streams at this site?			
e.	Brief description of project undertaken?			

f.	Project duration (planned versus actual)?			
g.	Date of implementation including start and end dates			
h.	With reference to the functional requirements contained in this RFI, indicate the products/modules used at this Site:			

4.3 Specific Issues and queries to be addressed

Key issue / query	Response
1. Development Plan	
CBL requires a system/organisation that is able to support the banks growth over the next 10 years. How does your organisational vision and strategy support this?	
2. Differentiating Factors	
What are the key differentiating factors of your system versus your competitors, as it applies to the CBL's national payments switch environment? Please describe only three.	
3. Other services	

Key issue / query	Response
<p>Please briefly describe any other services that your company offers that may be of benefit to CBL.</p>	
<p>4. Current Weaknesses</p>	
<p>What do you see as the main current weaknesses in your system, specifically as they apply to how your system will be utilized by CBL? What workarounds do you recommend to resolve these weaknesses in the short term? In addition, if your core system is unable to support any of the required functional and technical requirements listed below (Appendix III), please list these and describe your proposed solution or workaround, including effort required and likely costs of this solution/workaround.</p>	

<p>5. Communication</p>	
<p>The network / communication architecture across the participants varies in terms of bandwidth, maximum latency and reliability. How will your solution operate in this circumstance with minimal impact on our business transactions?</p>	
<p>6. Project Management</p>	
<p>Please detail the Project Management structures you would envisage putting in place, and those you would require from the CBL to ensure optimum and successful installation of the proposed system. Further, any ongoing resource infrastructure that may be required from a CBL standpoint, to ensure continued optimisation and success of the proposed system.</p>	
<p>7. Implementation</p>	
<p>Indicate whether you would envisage a phased approach to the installation, or a “big bang” over the weekend type of approach. Please include in your response a detailed project plan (Appendix IV), time lined with the various activities to be performed for successful implementation of the project. Also include which activities CBL would be responsible for, and which would be handled by you as Solution provider.</p>	

Note: Space is provided for the vendor to provide summary of the information requested. However, should this be insufficient, please include / attach additional information as required

Note: Space is provided for the vendor to provide summary of the information requested. However, should this be insufficient, please include / attach additional information as required

5 APPENDIX II – INDICATIVE COSTS

Based on the information contained in this RFI document, please provide an indicative cost quotation in the format shown below.

5.1 Data information

Metric	Quantity
EFT - ACH EFT transactions	72,000
Card - Debit cards issued	408,000
Card - Debit card transactions (on-us)	590,000
Card - Debit card transactions (not-on-us)	31,000
Card - Credit cards issued	5,700
Card - Credit card transactions (on-us)	1,800
Card - Credit card transactions (not-on-us)	22,200
Card - Merchant or agent POS or integrated terminal	2,400
Card - ATMs deployed	210
eMoney - Registered users (just under 50% is active on monthly basis)	1,780,000
eMoney - Cash-in operations (on-us)	1,120,000
eMoney - Cash-out operations (on-us)	1,020,000
eMoney - Bulk salary payments (on-us)	30,000
eMoney - Domestic money transfers (on-us)	950,000
eMoney - Bill payments (on-us)	610,000
eMoney - Retail purchase transactions (on-us)	75,000
eMoney – Agents (just under 50% is active on a monthly basis)	13,000

eMoney - Merchants	1,580
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Product supplied is expected to enable achievement of full functional and technical requirements as detailed in your response to the technical bid.

The sections are as follows:

5.2 National Payment Switch

- Card (ATM, POS, etc.)
- EFT
- E-Money/mobile money
- Instant Payments
- Request to pay
- Proxy payments

5.2.1 Card

Scenario 4 Overview

This scenario is the purest possible approach in establishing a sovereign National Payment Switch, with all cards and merchants issued and managed under Lesotho license with the card associations.

All domestic transactions (i.e. Lesotho merchant and Lesotho card) will be routed to and processed via the Switch.

In terms of the routing of international transactions, there are three alternatives:

Option 1: Lesotho subsidiaries of South African banks could route all international card transactions to their head office systems. This would allow the re-use of their existing infrastructure and card association gateways for the international transactions

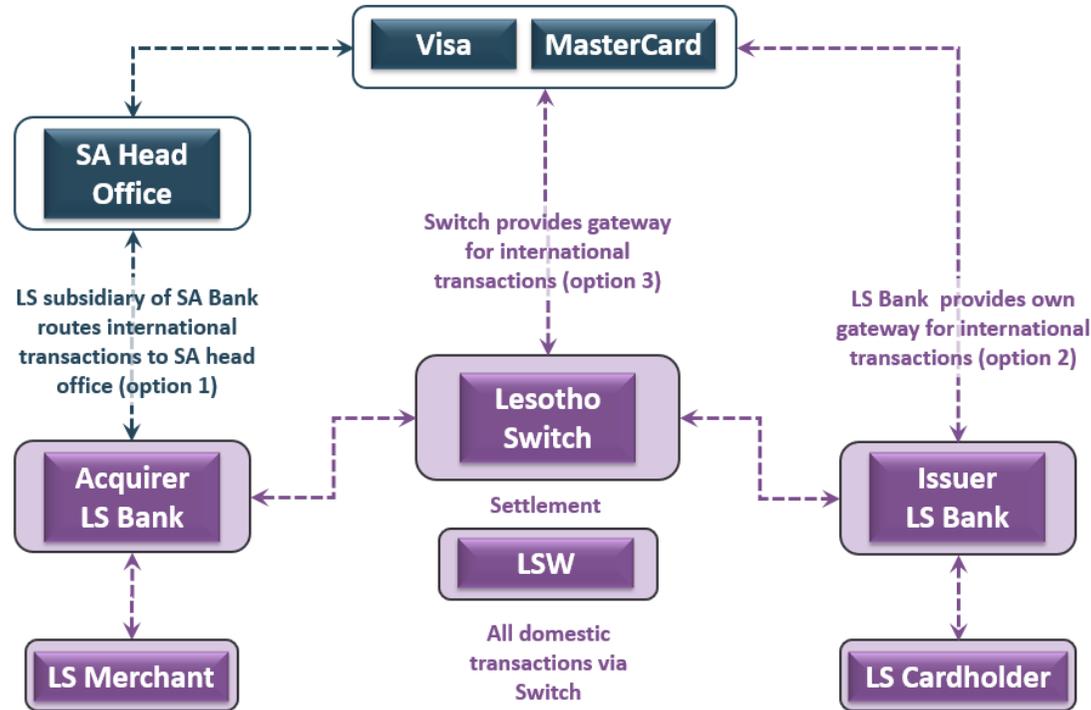
Option 2: Lesotho banks could invest in their own card association gateway services for international card transactions. This would be a choice of the bank(s) concerned, especially those without existing processing infrastructure

Option 3: The third option would be for the Lesotho Switch to provide gateways to the card associations for international transactions. The desirability (and viability) of this option would depend on the commercial business case, i.e. whether there are enough participants and transaction volumes to justify the cost

All merchants and cards will be issued and managed under Lesotho license. This would require the re-issuance of cards under the Lesotho-licensed BINs, unless it can be agreed with the card associations that the current card ranges allocated under the SA BINs can be re-used. PostBank will be accommodated in the Lesotho Switch on an equal basis to the SA banks' Lesotho subsidiaries.

The Switch will determine the Lesotho banks' obligations and provide settlement information to Lesotho Wire. There will not be any settlement of obligations based on Lesotho domestic transactions in SAMOS.

This scenario might incur significant system changes for the three subsidiary banks' head office central systems, as well as the core banking system used by the Lesotho subsidiaries. This scenario carries the highest cost for all stakeholders – from the CBL through the banks and other stakeholders, to the consumer.



Advantages	Disadvantages
<ol style="list-style-type: none"> 1. Full sovereign independence of the Lesotho National Payment System 2. CBL will have full visibility of card transactions and will be able to settle inter-bank obligations for all of the banks 	<ol style="list-style-type: none"> 1. Significant system changes may be required on the three subsidiary banks' head office and core banking systems, depending on the flexibility of their systems

<ul style="list-style-type: none"> 3. Interoperability with other streams (ATM and eMoney) will be managed within the Switch 4. Level playing fields for all participants 5. Compliance with BIS PFMI guidelines and FATF recommendations fully under the control of CBL 6. Compliance with the National Payment Switch drivers 	<ul style="list-style-type: none"> 2. Unless an agreement can be reached with the card associations to re-use the card ranges allocated by the SA banks for Lesotho, all Lesotho cards will have to be re-issued 3. This scenario carries the highest cost for all stakeholders – from the CBL through the banks and other stakeholders, to the consumer. Subsidization by CBL would probably be required
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5.2.2 EFT

The low-value EFT stream is currently taken care of by PAL Operations on the ACH solution provided by Sybrin. This ACH platform is shared with the Cheque stream and an upgrade of the service infrastructure is currently in the planning stages.

An option would be to defer the ACH platform upgrade and migrate the EFT stream to the new Switch in order to support the sustainability of the new Switch. This alternative should be considered as part of an RFI process.

Advantages	Disadvantages
Provides an additional stream and transaction volumes to help carry the cost of the new Switch	The effective cost of processing Cheques may be negatively impacted if EFT no longer shares the ACH platform

Better integration possibilities between EFT and the other streams (e.g. eMoney)	Migrating EFT to a new system will introduce operational risk while the new system stabilizes
Deferred platform upgrade costs for the current ACH, which could be offset against the cost of establishing the Switch	An EFT migration project will consume additional PAL Operations skills and resources, over and above the effort required to implement the Switch
The Cheque stream is isolated and can decline and eventually be terminated along with its platform	

Table 1 - EFT migration

5.2.3 ATM

The ATM stream and the switching of not-on-us transactions is envisaged to be satisfied through the card processing functionality of the National Payment Switch, regardless of the solution approach selected.

5.2.4 E-Money/mobile money

Currently the e-Money product offerings in Lesotho operate as independent closed loop systems. The stated desire of stakeholders is to work toward interoperability - not only between the e-Money solutions, but also between other streams.

The National Payment Switch should provide the following capabilities to address the drivers and stakeholder needs:

Interoperability between the participants within a particular stream, including the existing and emerging e-Money closed loop systems. This is the most important capability that should be provided in the short term as one of the first deliverables of the project and the e-Money stream offers low hanging fruit towards achieving the objectives

- An Application Programming Interface (API) driven integration model, which will enhance the ability of the various stakeholder systems to interact and communicate using modern techniques

-
- The ability to transact at any level in the e-commerce chain, whether person-to-person (P2P), business-to-business (B2B) or person-to-business (P2B)
 - Integration with ATM and commercial bank accounts for cash-in and cash-out purposes. Although this is an attractive objective for the MNOs and FinTechs, it is not regarded as a priority from the National Payment Perspective
 - Transacting in real time across streams. The consumer must be able to initiate a transaction on one stream and conclude it on another stream. This level of interoperability requires a complex integration task for all stakeholders and is not a high priority objective for the project in the short to medium term

5.3 Implementation Expectations

Implementation is expected to include, but not limited to the following activities:

1. Project Team Training
2. Detailed functional and technical specification
3. Fully tested package configuration/customization/modifications/parameterisation
4. Interfaces specification
5. Fully tested interfaces programs
6. Conversion specification
7. Data conversion from existing systems
8. Fully tested conversion programs
 - Acceptance testing of delivered solution
 - User training & manuals
 - Business user procedures
 - System operational procedures
 - Installation (e.g., site preparation, development environment, system parameters).

-
- Transition to live operation.
 - Others (please specify).

5.4 Proposed Vendor Solution or Products on Offer

Please provide an overview of the product offering you are recommending for the CBL.

Ref no	Main Products(MP)	Brief description	Version
MP01	Core card switch	Please describe your suggested offering	Latest version or version you suggest for CBL
MP02	Instant Payments	Please provide an overview of the Forex module	
Note: Please give suitable reference numbers (e.g. MP01, MP02, etc.) for ease of reference			

5.5 Other Proposed Products on Offer

Please provide an overview of other products that are not specifically recommended for the CBL, which you would like to bring to the CBL Project team's attention for future reference.

Ref no	Other Products (OP)	Brief description	Version
Note: Please give suitable reference numbers (e.g. OP01, OP02, etc.)			

5.6 Proposed Third Party Products on Offer

Please provide an overview of other Third party products that you recommend, specifically where your recommended product offering for CBL does not cover the functional or technical requirements.

Ref no	Third party products (if any) (TP)	Brief description	Reference site
No	Name of third party vendor and product	Brief description of the offering and the requirement to be addressed	Reference site where this is being used in conjunction with your product

Note: Please give suitable reference numbers (e.g. TP01, TP02, etc.)

5.7 Proposed Solution Licensing Models

Based on the full functionality required to meet the requirements in this RFI, please provide the various licensing pricing models available.

Please provide indicative costing based on the no of users, transactions, enterprise license etc. with an overview of the terms and conditions for such a licensing model.

- **e.g. User based licensing**
 - 0 – 300 users
 - 300 – 500 users
- **Enterprise licensing model**
- **Transactions based licensing model**
- **Any Other**

Note:

1. Where more than one module is required to fulfil our requirements, and these are normally priced and/or licensed separately, the fee for each module should be listed in full.
2. The RFI response must cover your response to functional and technical requirements detailed in Appendix III of the RFI.
3. Vendors must include all software, middleware, database, etc. needed to achieve functional and technical requirements objectives as detailed in your response to the RFI.

5.8 Annual Technical Support Costs

Based on the full functionality required to meet the requirements in this RFI, please provide the anticipate Annual Support and Maintenance costs associated with the proposed products in the 3 tables above, (Sections 6.3, 6.4, 6.5)

Please provide indicative costing based on the no of users, transactions, enterprise license etc. as described in Section 6.6 above

Ref no	Product/application/module	No of units (no of users)	Cost/unit (cost/no of users)	Cost (us\$)	Discount offered (%)	Net cost (total)
Annual Technical Support (Total)						
Vendor's Comments (if any):						
Please specify details of development/enhancement plans with time scale for anticipated release to user base.						

Note:

1. Please Itemise should your Annual Technical support rates vary per application/product/module.
2. For Annual Technical Support/Maintenance costs charged by solution provider, please provide details of your maintenance agreement terms.

5.9 Implementation Costs

Please provide a comprehensive overview of the implementation costs of the proposed solution. The below sections provides an overview of some of the considerations. It is however the Bidder's responsibility to provide a full overview of the implementation costs, and not just the specific elements listed below.

Sec / Ref No	Item Description	Costs	Time Frame
	Detailed functional and technical specification covering RFI functional and technical specifications		
	Fully tested package configuration/parameterization covering detailed functional and technical specification, migration.		
	Interfaces specification & Fully tested interfaces programs & Fully tested interfaces		
	User training		
	Business user procedures		
	System operational procedures		
	Disaster Recovery Facility		
	Other costs necessary for Go-Live		
Total Costs:			
	Please include any comments and other costing assumptions. Indicate specifically where other costs have been included (in addition to the above section).		

Note:

- Note: Please give suitable reference numbers for ease of reference
- Implementation cost to cover all products required to meet the requirements
- Implementation fees (indicative costs) must include all charges such as: hourly billing rates, travel costs, per diem, accommodation, telephone, insurance, taxes, medicals, etc.
- Implementation centre will be based in Lesotho from where all CBL locations will be covered.
- Please provide details of the implementation support you are proposing.
- Where different levels of resource are provided (e.g., Project Manager, Senior Consultant, Consultant) please provide experience profile for each level.
- Please also provide full list of standard training courses you provide and costs.
- Will there be a cap on the implementation costs?

5.10 Customisation Cost

List areas requiring customization/modification and the indicative costs (please also indicate any impact this may have on future version upgrades etc.)

Ref No.	Item Description	Costs
1.		
2		
3		
Total Costs		

Note:

Please state whether these modifications are already available and in use by other Banks

Please indicate the ownership of such customisations.

Vendor's Comments and other costing assumptions (if any)

5.11 Cost of building interfaces

Please refer to the technical information provided to obtain an understanding of the current CBL environment.

List of interfaces

Ref No.	Item Description	Costs
Total Costs		

Note:

- Note: Please give suitable reference numbers for ease of reference
- Please provide details of all assumptions made
- Any other notes from Vendor

5.12 Payment Terms

Please include any other costs that might have been excluded from the below table, as you see fit.

Description (e.g.)	Vendor's terms
Payment: License fees	
Year of Commencement : Annual Maintenance & Support Fees	
Payment: Annual Maintenance & Support	
Payment : Implementation Fees	
Any recurring technical fees	
Vendor's Comments:	
Please outline any anticipated pricing policy changes in the foreseeable future.	

6 APPENDIX III - DETAILED FUNCTIONAL AND TECHNICAL REQUIREMENTS

6.1 FUNCTIONAL REQUIREMENTS

Set out in this Appendix is the list of principal requirements of the National Payments Switch. Note that, although the focus of this selection is on functional requirements, technical requirements have also been documented so as to facilitate smooth rollout of the selected system. The detailed requirements definitions have been separated into various sections.

Please use the following options to indicate the “DEGREE OF SUPPORT” your solution provides for each of items listed in this Appendix:

5. FS – (Fully Supported) the application fully supports the requirement without any workarounds or modifications.
 6. RP – (Requires parameterisation) the application supports the requirement with use of a system or workflow workaround.
 7. RC – (Requires Customisation) the application requires modification in order to support the requirement.
 8. NS – (Not Supported) the system is not capable of supporting the requirement and cannot be modified to accommodate the requirement.
- Please tick the appropriate column to indicate one of the responses listed above for each item. If a vendor does not indicate a response to a requirement, it will be assumed that the vendor has ‘not met’ the requirement. Vendors are required to add the relevant comments about the corresponding requirement in the “VENDOR’S COMMENTS” section
 - For requirements in the “REQUIREMENT” column expanded by the inclusion of bullet points, the vendor is requested to enter a response against each bullet point and to add any comments deemed relevant in the “VENDOR’S COMMENTS” column
 - Wherever a requirement is not Core Functionality of the proposed solution, vendors are requested to provide a clear and concise explanation in the “VENDOR’S COMMENTS” column
 - Vendors should adhere to the format of the document and not manipulate the columns or rows in any way. Vendors should be aware that if they do change the format of their response they might be excluded from progressing further through our selection process. Vendor

responses to the requirements should be based on the capabilities of the specific core Banking System package solution proposed

- For companion products proposed, vendors are requested to clearly differentiate these from the core package, to specify interface capabilities with the core application and to include the associated costs

Example:

Sec.	Requirement	FS	RP	RC	NS	Vendor's comments
PP	PAYMENT PROCESSING					
1	Payments Switching	√				
2	Authorisations Switching	√				
3	Message Transformation				√	

Switch capabilities matrix

Mandatory
 Optional
 Nice to have

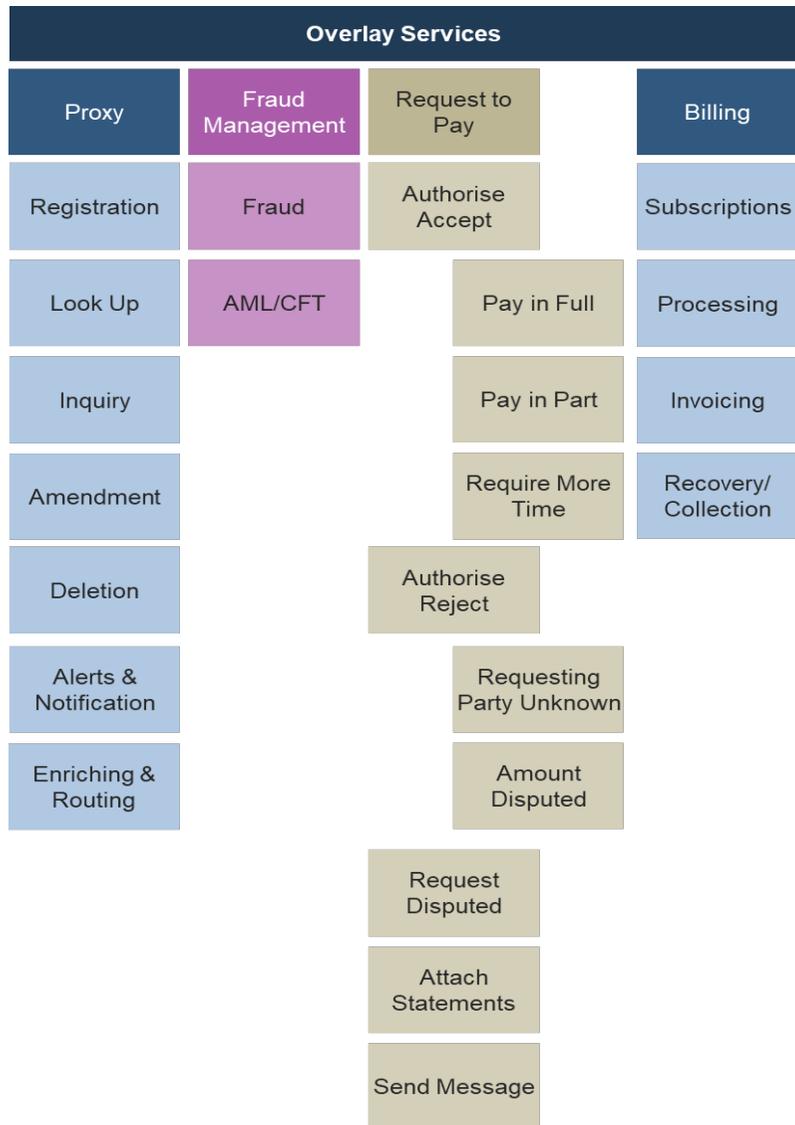
Switch													
Local Network Definition	Operating Schedule	Payments Processing	Master Data Management	Integration	Fees Management	Enquiries & Reports	Controls	Role Players	Limit Management	Security & IAM	Portal	Standards & Frameworks	
Connectivity & Rules Management	Scheduler Events Management	Payments Switching	Participant Management	LWS (RTGS)	Transaction Fees Calculation	Summary Reports	Log & Audit Trails	Service Provider	Manual Set Limits	Multi-factor Authentication	Service Provider	PCI-DSS	
	24/7/365	Authorisations Switching	Channel Management	PROXY	Interchange Fees Calculation	Detailed Reports	Alerts & Notifications	Direct Participants	Thresholds	Encryption	Participants	ISO20022	
	Event Processing	Message Transformation	System Parameters	International Card Schemes	Processing	Adhoc / Scheduled		Indirect Participants	Indirect Participants Limit Segregation	Access & permissions Management	Single Sign-on	ISO 8583	
		All Card Processing	User Management	Instant Payments		Filtering Capabilities on GUI		Settlement Agent					SWIFT CSF
		Clearing (Cards, eMoney, EFT)	Currency Management	Request to Pay		Exportable in various formats							PFMI
		Guaranteed Payment finalisation		Fraud Management									BIS Cyber Resilience Guidelines
		Settlement synchronisation & guarantee		AML									
		Multi Currency		SMS & Email (alerts & notifications)									
		Real Time Position Monitoring		SWIFT									
	Dispute Management												

** It is envisaged that there will be a centralised portal with Single-sign-on and centralised user identity and access management

** This solution must meet the requirements of a high availability solution and have stand-in capabilities

Instant Payments								
Payments Processing	¹ Limit Management	² Master Data Management	Integration	³ Fees Management	⁴ Enquiries & Reports	⁵ Controls	Security	⁶ Portal
Single account per participant per currency	Automatic Limit Synchronisation	Participant Management	LWS (RTGS)	Transaction Fees Calculation	Summary Reports	Log & Audit Trails	Multi-factor Authentication	Service Provider
Immediate/Real Time Payments	Indirect Participants Limit Segregation	System Parameters	PROXY	Processing	Detailed Reports	Alerts & Notifications	Encryption	Participants
Guaranteed Payment Finalisation	Thresholds	User Management	SWIFT		Adhoc / Scheduled			Single Sign-on
Settlement synchronisation & guarantee		Access & permissions Management	Participant Back Office		Filtering Capabilities on GUI			
Beneficiary banking details verification		Currency Management	Clearing		Exportable in various formats			
Request to Return funds			Billing					
Return Funds			RTP					
Real Time Position Monitoring			Fraud Management					
			AML					

1,2,3,4,5 & 6: This represents the additional functionality required by the Instant Payment System specifically



Core Switch Capabilities				FS	RP	RC	NS	Vendor's Comments
LND	Local Network Definition							
	Connectivity & Rules Management	The solution must provide a facility that enables the Service Provider to define connectivity endpoints and switching rules						
OP	Operating Schedule							
	Scheduler Events Management	The solution must provide for functionality that allows the Service Provider Administrator to manage the business days. The Scheduler must provide the ability to define business and non-business days/holidays, open and closing times of the system, settlement cycles, processing windows, etc. It must govern the cycle of business days triggering processes at predefined times or events.						
	24/7/365 -	The system must be available/operational 24 hours a day, seven days a week and 365 days a year without a need of interruption of the service for maintenance or upgrades. This must be supported by the solution being architecturally designed to conform to the requirements for a system that may						

			be set up in an active-active/high availability configuration.					
		Event Processing	The event processing must trigger certain processes when a predefined event occurs e.g. at the of the business day the scheduled reports must be generated or the transactions to recover/collect fees etc.					
PP	Payments processing		Validate, route, transform transactions across multiple channels					
		Payments Switching	The solution must provide for the ability to receive, validate and switch messages from different participants for different payments streams across different channels. This must be done in accordance with the rules that have been defined for the different payment streams.					
		Authorisations Switching	The solution must be able to route and switch the authorisation messages in accordance with the rules defined for the payment's streams and the underlying business model being implemented.					
		Message Transformation	The solution must provide for the functionality to define mapping/transformation rules to enable the transformation of					

			messages from one format to another. The system must log before and after images of the messages and the associated changes for audit purposes.					
		All Card Processing	Different card brand processing including domestic card brands					
		Clearing (Cards, eMoney and EFT)	The solution must provide for the ability to process the clearing of different payment streams according to predefines rules. The solution must provide for real time multilateral clearing of transactions between the different participants.					
		Guaranteed Payment finalisation	The solution must guarantee the finality of payments that are processed.					
		Settlement synchronisation and guarantee	The system must be capable of integrating with an RTGS for settlement of interbank obligations.					
		Multi-currency	The solution must be able to manage various currencies					
		Real-Time Position Monitoring	The balance and exposures must be visible to the Service Provider and the Participants in real time to enable them to manage their business processes and risk.					

		Dispute Management	The solution must provide for the ability to manage disputes that arise (e.g. if a participant mistakenly made a purchase and wants to reverse it or if the consumer is not happy with the product and wants a refund)					
MDM	Master Data Management		Master data management functionality is available to the Service Provider's Administrator of the solution to manage the static data required for the payments processes. This data includes the creation and maintenance of Participant information, user profiles, operating schedules etc.					
		Participant Management	The facility available to the System Administrator to create & Maintain the direct and indirect participants of the system along with data associated with the participants.					
		Channel Management	Functionality that allows the Service Provider Administrator to define and maintain different channels for the processing of different payment streams.					
		System Parameters	Functionality that allows the Service Provider Administrator to make changes to certain systems parameters.					

		User Management	Functionality that allows the Service Provider Administrator to make changes to certain users within the system.					
		Currency Management	The solution must provide for the management of different currencies.					
INT	Integration		The integration layer, component of functionality of the system, must be flexible and cater for easy integration to various external systems via various external methods, MQ, API's, SFTP etc.					
		External Systems						
		LSW (Lesotho Wire) – RTGS						
		Proxy						
		International Card Schemes						
		Instant Payments						
		Request to Pay						
		Fraud Management						
		AML						

		SMS & Email (alerts & notifications)						
		SWIFT FIN and InterAct services						
		Technologies/type						
		API						
		MQ						
		SFTP						
FM	Fees Management		<p>The solution must provide for functionality that enables the calculation of various fees and the integration to a Billing system that allows for the manual or automatic recovery of the fees and charges.</p> <p>The solution must provide the ability for the users and CBL to view all aspects of the fees, charges, related payments (or file) generate for collection etc.</p>					
		Transaction Fees Calculation	<p>The system should allow for the levying of certain charges, fees and penalties based on flexible rules such as:</p> <ul style="list-style-type: none"> - Payment type - Value of payments - Volume of payments - Etc. 					

			<p>Moreover, Participants should be able to view the charges, fees or penalties incurred.</p> <p>The System provider should be able to view the charges, fees or penalties incurred for each participant.</p>					
		Interchange Fees Calculation	<p>The Solution must be able to calculate interchange fees where applicable according to the rules and charges defined for the different messages across the different channels and payment streams.</p> <p>The System provider should be able to view the charges and fees incurred for each participant.</p>					
		Processing	<p>The Solution must generate the volumes, values, charge types according to the payment types and integrate wit the Billing System. The level of integration (per message or aggregated numbers) will depend on the Billing system.</p>					
ER	Enquiries & Reports		<p>The enquiries and reporting should provide as a standard an exhaustive set of reports for the System Operator and the participant banks. The reports should be delivered to their report inbox.</p>					

		Summary Reports	<p>The solution must provide for summary level reports including but not limited to:</p> <p>Snapshot of the participants balance, liquidity position and exposures, list of transactions and status Health of the system</p>					
		Detailed Reports	<p>The solution must provide detailed level reports including but not limited to: the detailed message or transactions and the life cycle of a message or transaction</p>					
		Adhoc/scheduled	<p>The solution must provide the functionality to request reports on an ad hoc basis/or as and when needed as well as the ability to schedule reports to be created at a predefined frequency (daily monthly etc.), time of day or when an event is triggered.</p> <p>Furthermore, it should enable users to specify whether they wish to receive the reports on a daily, weekly or monthly basis (this should be configurable by the Participants themselves).</p> <p>Ad hoc: These reports are produced as and when requested by the Participants.</p>					

			Scheduled: These reports are produced automatically by the system during end-of-day or start-of-day processing.					
		Filtering Capabilities on GUI	The reports should at a minimum provide for non-exhaustive filtering capabilities. Alternatively, the ability to customise reports should be provided for.					
		Exportable in various formats	The reports (Ad hoc and scheduled) should be exportable in various formats such as PDF, EXCEL or CSV.					
CON	Controls							
		Logs & Audit trails	The solution must keep a full audit trail of all changes made to master data, when the changes were made and by who and at a transaction level. All business events and technical errors/exceptions must be logged and made available for the Service Provider to interrogate. The solution must provide full traceability of all messages end-to-end for audit purposes and to facilitate trouble shooting. The solution must have the ability to integrate with a centralised logging system.					

		Alerts & Notifications	<p>The system must provide for the functionality to generate notifications (incl. confirmations and rejections) in response to processing of messages and alerts when certain conditions are met e.g. threshold being met or exceeded, exceptions occur in the system etc.</p> <p>For events that are critical such as violation of threshold etc. notifications must be sent to the Provider and relevant Participant. Integration with the communications module to be considered in order to allow for critical notifications and/or alerts to be sent via email and SMS etc.</p>					
ROP	Role Players		The solution must provide for different roles players and govern/manage what the they can do int the solution according to the predefined roles.					
		Service Providers						
		Direct Participants						
		Indirect Participants						
		Settlement Agent						
LIM	Limit Management		The solution must provide functionality for the Service Provider					

			and participants to set limits/caps and thresholds that govern the Risk Model					
		Manual Set Limits	The solution must provide functionality for the Service Provider and participants to set limits/caps that govern the total exposure of a Participant in the system (Multilateral Net position), the allowed bilateral limits between 2 participants or the limit for the automatic generation of a clearing batch to be sent to the RTGS for settlement.					
		Thresholds	The solution must provide the ability to set thresholds for certain limits to be set and when that threshold is reached the system then initiates/triggers a predefined action e.g. set the threshold for the balance of a participant at 80% and when that 80% threshold is reached the system generates a notification and alert for the participant and the service provider.					
		Indirect Participants Limit Segregation	As not all participants in the IPS may be participants in the settlement system, it may be necessary for a direct participant to distribute the limits to indirect participants.					

SAM	Security & IAM		The solution must be highly secure, have the ability to integrate with an external identity management solution and provide Multi Factor Authentication.					
		Multi-factor authentication	The solution must provide for and enforce multi-factor authentication with the flexibility of integrating to various multi-factor authentication methods.					
		Encryption	All data (at rest and in transit) must be encrypted					
		Access and Permission Management	The solution must provide for the ability to manage the access participants and users have to the system. The solution must adhere to the least privilege principle. Provision must be made to define different authorisation levels for different functions (6 eyes principle). Provision must be made for role-based access management and must also provide the functionality to manage the permissions at a very granular level e.g. read/view, edit, authorise etc.					
POR	Portals		The solution must provide portals for the Service Provider and participants					
		Service Provider						

		Participants						
		Single Sign-on	The solution must provide single sign-on capability so that the user only logs on once and then has access to the applications that he is authorised to see.					
SAF	Standards & Frameworks		The solution must adhere to the best practise guidelines and frameworks listed below					
		PCI-DSS						
		ISO20022						
		ISO 8583						
		SWIFT CSF						
		PFMI						
Instant Payments								
IPS	Instant Payment System		The IPS must be capable of processing instant Credit Transfers thereby enabling an immediate movement of funds between a Payer and a Payee. The system should furthermore provide limit management and payment processing capabilities. Moreover, the IPS must be integrated with the proxy and request to pay components thus enabling the automatic synchronisation between the services for the purposes of					

			looking up the customer details and enabling request to pay in an automated customer friendly manner. This greatly facilitates the management of the overall solution for the business and technical operators, through seamless processing of the IPS and proxy messages received by the services.					
IPP	Payments Processing							
		Single account per participant per currency	The IPS must cater for Participants to hold accounts and sub accounts per currency.					
		Immediate/Real time payments	The IPS must cater for the immediate movement of funds between a Payer and a Payee.					
		Guaranteed Payment finalisation	The IPS must guarantee the finality of payments that are processed.					
		Settlement synchronisation and guarantee	If the IPS is not capable of doing settlement within the system the IPS must be capable of integrating with an RTGS.					
		Beneficiary banking details verification	Refers to the ability to verify the beneficiaries banking details prior to the finalisation of the payment in order to avoid payments being					

			rejected due to incorrect banking details.					
		Request to return funds	This functionality caters for a business scenario where a Request for Return of Funds message is initiated by the original Debtor to the original Creditor requesting the return of funds for a previously successful Credit Transfer.					
		Return funds	This is the Payment Return transaction initiated by the original creditor participant bank in response to the acceptance of a Request for the Return of Funds.					
		Real Time Position Monitoring	The system must provide for the real time position monitoring of all Participants by the System Provider. Moreover it should provide Participants with the ability to monitor their own positions in real time.					
ILM	Limit Management		The solution must provide functionality for the Service Provider and participants to set limits/caps and thresholds that govern the Risk Model					
		Automatic limit synchronisation	The liquidity used to guarantee settlement can either be manually managed in the IPS or automatically					

			synchronised from the settlement system.					
		Indirect Participants Limit Segregation	Seeing as though not all participants in the IPS may be participants in the settlement system, it may be necessary for a direct participant to distribute the limits to indirect participants.					
		Thresholds	Thresholds are defined by the System Provider based on the collateral reserved for use in the IPS. The system should cater for the ability to define certain minimum and maximum thresholds which if violated will generate alerts or notifications.					
IMDM	Master Data Management		Master data management functionality is available to the Service Provider's Administrator of the solution to manage the static data required for the payments processes. This data includes the creation and maintenance of Participant information, user profiles, operating schedules etc.					
		Participant Management	The facility available to the System Administrator to create & Maintain the direct and indirect participants of the system along with data associated with the participants.					

		System Parameters	Functionality that allows the Service Provider Administrator to make changes to certain systems parameters					
		User Management	Functionality that allows the Service Provider Administrator to make changes to certain users within the system.					
		Access & Permissions Management	Functionality that allows Service Provider Administrator to make changes to the access and permissions of certain users within the system and allows the Participant Administrator to make changes related to access and permissions to users within their domain.					
		Currency Management	The solution must provide for the functionality to capture and manage different currencies					
IINT	Integration		The integration layer, component of functionality of the system must be flexible and cater for easy integration to various external systems via various external methods, MQ, API's, SFTP etc.					
		External Systems						
		LSW (Lesotho Wire) - RTGS						

		Proxy						
		SWIFT						
		Participant Back Office						
		Clearing						
		Billing						
		(RTP) Request to Pay						
		Fraud Management						
		AML						
		SMS & Email (alerts & notifications)						
		Technologies/types						
		API						
		MQ						
		SFTP						
IFM	Fees Management		The solution must provide for functionality that enables the calculation of various fees and the integration to a Billing system that allows for the manual or automatic recovery of the fees and charges.					

			The solution must provide the ability for the users and CBL to view all aspects of the fees, charges, related payments (or file) generate for collection etc.					
		Transaction Fees Calculation	<p>The system should allow for the levying of certain charges, fees and penalties based on flexible rules such as:</p> <ul style="list-style-type: none"> - Payment type - Value of payments - Volume of payments - Etc. <p>Moreover, Participants should be able to view the charges, fees or penalties incurred.</p> <p>The System provider should be able to view the charges, fees or penalties incurred for each participant.</p> <p>The charges, fees or penalties should be exportable or integrated with a billing system or catered for within the IPS in order to recover the charges, fees or penalties from the participants.</p>					
		Processing	The Solution must generate the volumes, values, charge types according to the payment types and integrate with the Billing System. The level of integration (per message or					

			aggregated numbers) will depend on the Billing system.					
IER	Enquiries & Reports		<p>The enquiries and reporting should provide as a standard an exhaustive set of reports for the System Operator and the participant banks. The reports should be delivered to their report inbox.</p> <p>Furthermore, it should enable users to specify whether they wish to receive the reports on a daily, weekly or monthly basis (this should be configurable by the Participants themselves).</p>					
		Summery Reports	The system should cater for summary reports.					
		Detailed Reports	The system should cater for detailed reports.					
		Ad hoc/ Scheduled	<p>The solution must provide the functionality to request reports on an ad hoc basis/or as and when needed as well as the ability to schedule reports to be created at a predefined frequency (daily monthly etc.), time of day or when an event is triggered.</p> <p>Furthermore, it should enable users to specify whether they wish to receive the reports on a daily, weekly or monthly basis (this should be</p>					

			<p>configurable by the Participants themselves).</p> <p>Ad hoc: These reports are produced as and when requested by the Participants.</p> <p>Scheduled: These reports are produced automatically by the system during end-of-day or start-of-day processing.</p>					
		Filtering capabilities on GUI	<p>The reports should at a minimum provide for non-exhaustive filtering capabilities.</p> <p>Alternatively, the ability to customise reports should be provided for.</p>					
		Exportable in various formats	<p>The reports (Ad hoc and scheduled) should be exportable in various formats such as PDF, EXCEL or CSV.</p>					
ICON	Controls							
		Log & Audit Trails	<p>The solution must keep a full audit trail of all changes made to master data, when the changes were made and by who and at a transaction level. All business events and technical errors/exceptions must be logged and made available for the Service Provider to interrogate. The solution must provide full traceability of all messages end-to-end for audit</p>					

			<p>purposes and to facilitate trouble shooting.</p> <p>The solution must have the ability to integrate with a centralised logging system.</p>					
		Alerts & Notifications	<p>The IPS will monitor the limits thresholds defined and if a threshold is reached, the IPS could automatically request more collateral or alert the operator to manually request more liquidity (for automatic requests the IPS and the RTGS need to be integrated to some extent).</p> <p>For events that are critical such as violation of threshold, threshold of collateral utilisation etc. notifications must be sent to the Provider and relevant Participant. Integration with the communications module to be considered in order to allow for critical notifications and/or alerts to be sent via email and SMS etc.</p>					
ISEC	Security		<p>The solution must be highly secure, have the ability to integrate with an external identity management solution and provide Multi Factor Authentication.</p>					
		Multi-factor Authentication	<p>The solution must provide for and enforce multi-factor authentication</p>					

			With the flexibility of integrating to various multi-factor authentication methods.					
		Encryption	All data (at rest and in transit) must be encrypted					
IPO	Portal		The IPS should provide a user-friendly web-based GUI for both the System Provider as well as the Participant Banks					
		Service Provider						
		Participants						
		Single Sign-on	The solution must provide single sign-on capability so that the user only logs on once and then has access to the applications that he is authorised to see.					
Overlay Services								
PRO	Proxy		As part of processing of various payment streams (e.g. Mobile Wallets, IPS etc.), proxy lookup facilities should be provided for – either in a centralised, decentralised or hybrid model. The Proxy Component facilitates instant Credit Transfers that have been initiated using a secondary/proxy Identifier. The instant Credit Transfer is routed to the Proxy					

			Database in order to lookup the BIC/IBAN codes linked to the proxy identifier, prior to sending the Credit Transfer to the IPS for processing.					
		Registration	<p>Proxy registration enables the participant banks to send proxy registration messages based on the ISO standards or manually load the individuals proxy details via the provided UI within the proxy system. It is recommended that at the start only one payment account number can be associated with one proxy identifier – in order to obtain unambiguous relationship - but one payment account can have multiple proxy identifiers, thus an account can have multiple owners or multiple types of proxy identifiers.</p> <p>As a part of the evolving product and data model, catering for multiple accounts needs to be taken into consideration from the start in consultation with the industry defined rules.</p> <p>Data associated with a proxy identifier should be changeable as long as the predefined verification process (incl. KYC) has been followed.</p>					

		Lookup	<p>The lookup function gives back the account number information (BIC + IBAN) and name associated with an existing proxy identifier (type + identifier). These payment account details and name information must be provided in the relevant payment instruction.</p> <p>It is important to note that the look up process may differ depending on which Proxy Database Model is used.</p>					
		Inquiry	<p>The inquiry facilitates the return of all the proxy identifiers registered to the payment account being interrogated. An inquiry can be initiated only by the registering payment service provider of the account.</p>					
		Amendment	<p>Data associated with a proxy identifier should be changeable as long as the participant bank has completed the KYC process.</p>					
		Deletion	<p>A registered proxy identifier can be deleted. For example: the proxy identifier will be deleted if its owner does not want to use it anymore, or wants to link it to another payment account, or if the BIC, the account number, or the name will be changed.</p>					

		Alerts & Notifications	For events that are critical notifications must be sent to the Provider and relevant Participant. Integration with the communications module to be considered in order to allow for critical notifications and/or alerts to be sent via email and SMS etc.					
FRM	Fraud Management		Fraud management must be rules based and be flexible so that rules can be added and tweaked to minimise the reporting of false positives and thereby increase efficiency in the process reducing the overhead on resources having to spend time analysing false-positives.					
		Fraud Detection	The fraud system must provide rule-based as well as Machine Learning fraud prevention functionality for Payment messages, online assessment on potentially fraudulent activities, black lists, and the fraud detection functionality ensuring possibility to analyse suspicious cases discovered for processed transactions.					
		AML/CFT	The solution must integrate with an anti-money laundering/funding terrorism solutions					

RTP	Request to Pay		<p>The “Request to Pay” Component (RTP Component) enables the end-users of the Participants to initiate payment transactions from the Requesting Parties side (Creditor/Payee). The Receiving Party (Debtor/Payer) replies to the request initiated by the Sending Party with a standard instant credit transfer transaction.</p> <p>The message exchange between the two participants must be interactive. Consider allowing the Payee to attach relevant documentation related to the RTP.</p>					
		Authorise Accept	<p>The Payer receives the RTP and Accepts to pay the RTP now.</p> <p>There are solutions that allow the Payer to select a later date at which to accept the RTP or to pay a different amount than that stated in the RTP.</p> <p>Furthermore, there are solutions that should cater for a combination in that they allow the Payer to set up a sequence of payments for a single RTP, specifying the amount and number of instalments. The payments in the sequence are automatically executed by the Payer’s PSP without further interaction with the Payer.</p>					

		Authorise Reject	The Payer receives the RTP and Rejects to pay the RTP.					
		Request Disputed	The Payer receives the RTP, however, does not agree with some of the details within the RTP such as the amount to be paid or date on which the payment is to be made etc. The Dispute functionality should allow the Payer to provide feedback and provide the relevant documentary evidence as to why the Payer does not agree with certain details.					
		Attach Statements	The functionality as touched on above caters for either the Payee or Payer to attach relevant documentary evidence related to the RTP or the Dispute thereof.					
		Send Message	Allows the Payer to communicate with the Payee in order to clarify queries or address concerns prior to the Payer accepting the RTP.					
BIL	Billing		The solution must provide for functionality that enables the calculation of various fees and the manual or automatic recovery thereof. The solution must provide the ability for the users and CBL to view all aspects of the fees, charges, related					

			payments (or file) generate for collection etc.					
		Subscriptions	The solution must provide for the ability to a define and recover subscription charges according to predefined rules (e.g. frequency – annually/monthly etc.)					
		Processing	The solution must have the functionality to calculate the fees, charges and penalties that have to be recovered according to the predefined charges and fees and the volumes, values and message types. The Solution must generate payment instructions (or a file of payment instructions) to recover/collect the fees.					
		Invoicing	The solution must be able to generate invoices and distribute them to the relevant participants.					
		Recovery/Collection	The solution must provide the option for automatic recovery of the fees by sending the fee recovery payments instructions to the RTGS.					

6.2 DETAILED TECHNICAL REQUIREMENTS

Set out in this Appendix is the list of principal technical requirements of the CBL Banking System.

Please use the following options to indicate the “DEGREE OF SUPPORT” your solution provides for each of items listed in this Appendix:

1. FS – (Fully Supported) the application fully supports the requirement without any workarounds or modifications.
 2. RP – (Requires parameterisation) the application supports the requirement with use of a system or workflow workaround.
 3. RC – (Requires Customisation) the application requires modification in order to support the requirement.
 4. NS – (Not Supported) the system is not capable of supporting the requirement and cannot be modified to accommodate the requirement.
- Please tick the appropriate column to indicate one of the responses listed above for each item. If a vendor does not indicate a response to a requirement, it will be assumed that the vendor has ‘not met’ the requirement. Vendors are required to add the relevant comments about the corresponding requirement in the “VENDOR’S COMMENTS” section
 - For requirements in the “REQUIREMENT” column expanded by the inclusion of bullet points, the vendor is requested to enter a response against each bullet point and to add any comments deemed relevant in the “VENDOR’S COMMENTS” column
 - Wherever a requirement is not Core Functionality of the proposed solution, vendors are requested to provide a clear and concise explanation in the “VENDOR’S COMMENTS” column
 - Vendors should adhere to the format of the document and not manipulate the columns or rows in any way. Vendors should be aware that if they do change the format of their response they might be excluded from progressing further through our selection process. Vendor responses to the requirements should be based on the capabilities of the specific core Banking System package solution proposed
 - For companion products proposed, vendors are requested to clearly differentiate these from the core package, to specify interface capabilities with the core application and to include the associated costs

Sec	General requirements	Vendor's response
GR	<u>GENERAL REQUIREMENTS</u>	
1	Please provide a capability map (or Reference Architecture consisting of block diagrams with discrete functional areas) of your proposed solutions, applications and components.	
2	Please provide a written overview of your solution capability map listed in the previous point above.	
3	Please provide a high level solution architecture diagram of your proposed solution.	
4	Please provide a high level written overview of your proposed solution architecture.	
5	Provide an overview of the required infrastructure for the recommended solution e.g. server platform, operating system, virtualisation etc.	
6	What is your development languages used and which platforms/databases do you support?	
7	Elaborate on the different options to meet our specific needs and explain the boundary when upgrades, new releases or support packs would impact a smooth upgrade.	
8	Elaborate on your release strategy and upgrade/support packs and explain in detail how the upgrades are implemented.	

9	Do you have a clear strategy available to allow configuration, parameterisation, upgrades and customisation without impacting the banks operations?	
CBL intends to ease the administration burden on its in-house IT and system administrators:		
10	Please describe the anticipated system administrative requirements for your proposed system.	
11	Please give details on IT System Administrative training requirements and skills level required.	
User system adoption is critical to CBL.		
12	Please describe the “Ease of Use” and User Interface for your proposed system.	
13	Please give details on end user training requirements and skills level required.	
14	Do you have a clear strategy available to allow configuration, parameterisation, upgrades and customisation without impacting the banks operations?	

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
AA - APPLICATION ARCHITECTURE						

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
1	CBL intends to have the application run on a secure, robust, scalable platform. Does your solution support this? Please give details.					
2	CBL may wish to standardize on a database for all its Database Management requirements in the future. Does your solution support Oracle or MS SQL? Please give details.					
3	Can your proposed solution be hosted in a Virtualised environment? Please give details on supported virtualisation technologies.					
4	CBL requires to achieve seamless integration of its national payments switch processes. Does your product support this? Please give details.					
5	CBL may wish to leverage cloud computing technology in future. Does your product support this? Please give details.					
6	Does your product provide a Customer Relationship Management tool? Please give details.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
7	Is your product support provided on a variety of Operating Systems?					
	a) Windows (32/64bit)? Please give details.					
	b) LINUX (32/64bit)? Please give details.					
	c) AIX? Please give details.					
	d) Other? Please give details.					
ARRD - AVAILABILITY, RESILIENCE, REDUNDANCY & DISATER RECOVERY						
1	The solution is not vulnerable to a single point of failure. Please elaborate.					
2	Ability to switch immediately to a standby server in the event of hardware failure without data loss or business disruption. Please explain your approach					
3	Automatic fail over is supported. Please give details.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
4	Ability to provide real-time (hot-backup) facility. Please give details.					
5	Ability to provide for disaster recovery procedure. Please give details.					
6	Ability to Roll-back and recover from exceptions. Please give details.					
7	Application / System / RDBMS Replication. Please give details.					
8	Ability to support replication scheduling. Please give details.					
9	Ability to support referential integrity? Please explain.					
10	Ability of the system to adhere to Best Practices related to Backup and restore. Explain.					
11	Ability to be backed up or restored by software system e.g. Symantec, Tivoli etc. without adversely affecting system performance. Explain. List other potential Backup solutions.					
12	<u>The system should be available to users within the following tolerances:</u>					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
	a) Each period of system down time must not exceed 1 hour within operating hours.					
	b) The total period of system down time must never exceed 24 hours in any 12-month period.					
	c) Downtime due to housekeeping procedures should be no longer than '4 hours'.					
<u>ESP - ENTERPRISE SCALABILITY & PERFORMANCE</u>						
1	Ability of your solution to support scalability to upwardly scale in the event of increased usage of the system as well as facilitate growth into the future					
<u>NA - NETWORK / COMMUNICATIONS ARCHITECTURE</u>						
1	Ability for your application to operate in the network environment described					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
2	Ability for your application to operate centralised and/or distributed architecture.					
3	Ability for your application to work with digital Terrestrial Leased Line technology.					
4	Ability for your application to work with technologies e.g.: Microwave.					
5	Ability for your application to work in a network load balancing environment.					
6	Ability to share available bandwidth on the WAN architecture.					
7	Ability to support batch runs without causing system degradation.					
8	Ability for your application to support Gateways through the extension of the solution over organisational boundaries by means of the deployment of connection gateways, point to point connections for business-to-business integration (XML & Non XML) and extension of the bus to partners.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
DM - DATA MIGRATION						
1	Ability for your application to use standard message formats. Please provide details.					
2	Does your system support the migration of existing EFT data to your solution? Explain.					
3	Does your solution offering include methodologies, techniques and "Best Practices" to facilitate data migration to your solution? Please provide details.					
4	Does your product use 3rd party tools to migrate relevant banking systems data from existing disparate systems? Please elaborate.					
<u>ASSM - APPLICATION AND SYSTEM SOFTWARE MAINTENANCE</u>						

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
1	As the solution Vendor, you provide regular updates of your solution to meet new business requirements and regulatory requirements?					
2	New releases or version upgrades are released quarterly or annually? Elaborate.					
3	With proper enablement, CBL administrators can apply new releases, software patches and upgrades with relative ease. Explain in detail how the upgrades are implemented.					
4	Ability for your application to be backward compatible in regard to set operating systems and databases?					
5	Ability for your application to be backward compatible with previous versions or your software? If yes, how many versions/releases backwards will be supported?					
6	Support for centralised configuration management when implementing version upgrades.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
7	Ability for your application to test version upgrades in a Test, UAT and SIT environment, prior to release into PRODUCTION. Elaborate on licensing implications.					
<i>ASS - APPLICATION AND SYSTEM SECURITY</i>						
1	Ability to integrate with LDAP systems e.g.: MS Active directory and support for roles and responsibilities being defined in the system. Please advise on prerequisites for LDAP integration.					
2	System, should allow each user to have a unique account and related password for access to the system. Please give details.					
3	System should allow the Security Administrator to grant user access rights, user account administrations, running of exception reports. Please give details.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
4	Ability to enforce mandatory access control policy that cannot be changed by unauthorised database users. Please give details.					
<u>ASN - APPLICATION AND SYSTEM NAVIGATION</u>						
1	Support for customised menus and screens					
2	Ability to allow suppression of appearance of menu items where function is not required, or not allowed to user.					
3	Ability to control access to system menus, forms, reports and system administration sections.					
4	For all data entry screens the system should facilitate for retrieval of data records based on key fields.					
5	Ability to create and customise user defined fields and parameters. Please give details.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
<i>WESS - WEB-ENABLED SOLUTION & SECURITY</i>						
1	Ability of your application to extensively leverage web technology. To what extent does your application support this?					
2	Does the web solution offer current, top-level security and authentication mechanisms such as SSL, S-HTTP, digital signatures, and public/private key encryption, or any other? Please specify.					
3	Does the web solution offer remote system user and admin access via VPN?					
4	Ability to support web-based access to system functions. Give details.					
5	Web enabled for a CBL System User capability? Please give details.					
6	Web enabled for a CBL Admin User capability? Please give details.					
7	Web enabled for a CBL Client (Additional banking channel) capability? Please give details.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
8	The system should use a window based graphical user interface and provide options for web access.					
<i>FORT - FINANCIAL AND OPERATIONAL REPORTING TOOLS</i>						
1	Ability of your application to provide a "built in" report writer facility for ad-hoc financial, regulatory and operational reporting in various user defined formats. Give details.					
2	Ability of your application to provide reports with Graphics, Regional Views and Drill Drown capabilities, trends,					
3	Ability of your application to provide a Business Intelligence capability. How does your system support this?					
4	Ability of your application to provide What if analyses and Multidimensional views of core banking and financial data. How does your system support this?					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
<u>WPM - WORKFLOW AND PROCESS MANAGEMENT</u>						
1	Does your system provide a workflow engine? Please give details.					
2	Ability to provide workflow action and event tracking, with user definable actions that can be mandatory or optional.					
3	Ability to define user workflows and to amend existing ones.					
4	The ability of your application to have a workflow management module with the capability of moving documents online, for action by various users.					
5	The ability of your application workflows to escalate the action to a supervisor and enforce the chain of command?					
6	Ability to support central setting of system date.					
7	The ability of your application to support for automatic time-outs for inactive sessions over a user specified period of time. Please explain.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
8	The ability of your application to provide Online multi-level approvals for different transaction types. Please give details.					
9	The ability of your application to allow the setting of limits those authorizers can approve depending on the authoriser's grade and type of transaction.					
<i>AIC - APPLICATION INPUT CONTROLS</i>						
1	<u>Systems should provide the following input validation checks over input data:</u>					
	a) Field check					
	b) Record check					
	c) Batch check					
	d) Other..?					
2	Systems should provide error reporting and handling options such as:					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
	a) Support for batch transaction processing (accept all or none of related transactions).					
	b) Support for suspense accounts for yet to be resolved errors.					
	c) Option to either reject erroneous transactions outright or have them processed into suspense account.					
	d) Where transactions are not processed due to error there should be option to have them in a suspense file.					
3	Support for system to provide transaction logs.					
4	Capability to manually input files or upload files into the core banking system. Please give details.					
5	The ability of your application to display a confirmation screen before the transaction is committed.					
<i>SIIC - SYSTEM INTERFACES AND INTEGRATION CAPABILITIES</i>						

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
1	Does your solution provide for flexible interface allowing on-line interface to/from the following modules like:					
	a) API					
	b) RTGS					
	c) SWIFT					
	d) Others....Please specify					
2	Does your solution provide or interface with other known Electronic Funds Transfer systems? Please give details.					
3	Ability of your application to work with Web Sphere MQ.					
<u>DMA - DOCUMENT MANAGEMENT</u>						
1	Ability to attach and reference electronic copies of documents associated with transactions.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
2	Please describe any other document management capabilities of your system along with system requirements.					
3	Ability to support image compression e.g. JPEG, GIF, or other formats (please specify).					
4	Ability to integrate with a third party document management system. Please give details.					
<i>SMM - SYSTEMS MANAGEMENT AND MONITORING</i>						
1	Ability to monitor application and database performance based on transaction loads etc., please give details on any monitoring tools and capabilities included with your solution.					
2	Ability to be monitored by a network management system e.g. Tivoli, HP Open View etc.					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
3	Ability to be monitored by antivirus software system e.g. Symantec etc. without adversely affecting system performance.					
4	Ability to send application or database alerts when performance thresholds are reached or exceeded. Please provide details.					
<u>SAC - SYSTEM AUDIT CAPABILITIES</u>						
1	Ability of the system to provide comprehensive audit trail of actions and events executed within the system. Give details.					
2	<u>Ability to provide the following information at any time:</u>					
	a) active users					
	b) active files or directories					
	c) active workstations/ PC's/ Terminals and location					

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
	d) active services					
3	Ability of your application to provide a built in health check processes and mechanisms and provide warnings or alerts to business or administrators, depending on status. Please provide details.					
4	Ability to disable the system if services that provide the audit trails are not working.					
<u>ASOH - APPLICATION AND SYSTEM ONLINE HELP</u>						
1	Provision of online documentation.					
2	Provision of online help.					
3	Provision of search facilities.					
4	Provision of online procedures.					
<u>SAD - SYSTEM AND APPLICATION DOCUMENTATION</u>						

Sec	Functional requirements	FS	P S	R C	N S	Vendor's comment
1	Security Documentation - Please confirm availability of the following documentation and whether this is system generated or manually produced:					
2	Recovery programs.					
3	Security schemes.					
4	Audit/control techniques descriptions.					
5	Disk space usage estimation.					
6	Systems Narratives/Glossary of terms.					
7	File structures/Data Dictionary.					
8	Deployed Solution Documentation - Please confirm availability of the following documentation and whether this is system generated or manually produced:					
9	Provision of Application Manuals.					
10	Provision of Standard Operating Procedures.					

7 APPENDIX IV – IMPLEMENTATION TIMETABLE

In this appendix it is requested that vendors provide a draft implementation schedule for the proposed solution, in Gantt chart format on a monthly time segment basis, with text support.

The schedule must:

- Indicate the delivery of each key component including key milestones.
- Identify the key delivery phases and describe the approach and the expected deliverables from each phase.

Delivery phases must include:

Delivery phases	High level description
Specifications	Detailed functional and technical specification
IT Systems and Integration Architecture Design	Deployment architecture, infrastructure design
Functional and Non-Functional Design And Build	Systems functional models, non-functional (scalability etc.) Fully tested package configuration/customization/modifications/parameterization
Interfaces / Integration	Interfaces / Integration specification
	Fully tested interfaces and integration programs
Data Conversion	Conversion specification including data models

Delivery phases	High level description
	Data migration strategy
	Data conversion from existing systems
	Fully tested conversion programs
Testing	System Integration and User Acceptance testing of delivered solution (dress rehearsals)
Training	CBL Training (end user, technical and system administrator)
	User training & manuals
Procedures	Business user procedures
	System and standard operational procedures
Installation	Installation (e.g., site preparation, development environment, system parameters)
Transition And Support	Transition to live operation including dress rehearsals and post implementation support
Vendor Project Management	Project Management, quality assurance, governance, documentation, progress reports, communication
Other?	Please list any other specific items from your perspective

Please indicate the major dependencies between activities, where applicable.

An initial estimate of the resource effort (in work-days) required from the vendor consultants and CBL on a monthly basis for each delivery phase and, for CBL, provide a split between business and IT resource.

Please present your resource estimates as per the format of the Implementation Resource Matrix as detailed in Appendix V.

The resource profile should show for each delivery phase:

- Workday effort by vendor resource type.
- Workday effort by CBL business users.
- Workday effort by CBL IT resource types (e.g., Project Manager).

Please include an explanation of the approach taken to the allocation of contingency within the schedule.

Key points to note:

- Your schedule must cover the period up to operational acceptance including a **minimum 3-month settling in period** after the go-live date of the full proposed solution.
- You must indicate when the functionality is expected to be live
- Please include a listing of all assumptions made
- Provide a description of the key implementation risks and external events, which could cause delay, and how they will be managed
- Outline any dependencies on third party suppliers (e.g., for equipment supplies) and key dates for delivery
- Please identify the specific deliverables that are OUT OF SCOPE for yourself as the vendor

8 APPENDIX V – IMPLEMENTATION RESOURCE MATRIX

Please set out an estimate of the number of days effort required (as opposed to elapsed time) to complete each stage of the implementation. Please detail the skills/types of the external resources and add any additional tasks you identify as a necessary part of the progress.

EXTERNAL RESOURCES

Based on the full functionality required to meet the requirements in this RFI, please provide the number of days effort required of IT resource (as opposed to elapsed time) to complete each stage of the implementation.

Product/Application/Module		Specifications	IT Systems and Integration Architecture Design	Functional and Non-Functional Design And Build	Interfaces / Integration	Data Conversion	Testing	Training	Procedures	Installation	Transition And Support	Vendor Project Management	Other?
Ref No	Description												
Total													
Planning Assumptions:													
Note: Please include Curriculum Vitae of Key Resource													
Vendor's Comments (if any):													

BUSINESS RESOURCES

Based on the full functionality required to meet the requirements in this RFI, please provide the number of days effort required of Business resource (as opposed to elapsed time) to complete each stage of the implementation.

Product/Application/Module		Specifications	IT Systems and Integration Architecture Design	Functional and Non-Functional Design And Build	Interfaces / Integration	Data Conversion	Testing	Training	Procedures	Installation	Transition And Support	Vendor Project Management	Other?
Ref No	Description												
Total													
Planning Assumptions:													
Note: Please include Curriculum Vitae of Key Resource													
Vendor's Comments (if any):													

INFORMATION TECHNOLOGY DEPARTMENT RESOURCES

Based on the full functionality required to meet the requirements in this RFI, please provide the number of days effort required of IT resource (as opposed to elapsed time) to complete each stage of the implementation.

Product/Application/Module		Specifications	IT Systems and Integration Architecture Design	Functional and Non-Functional Design And Build	Interfaces / Integration	Data Conversion	Testing	Training	Procedures	Installation	Transition And Support	Vendor Project Management	Other?
Ref No	Description												
Total													
Planning Assumptions:													
Note: Please include Curriculum Vitae of Key Resource													
Vendor's Comments (if any):													