

EAST AFRICAN COMMUNITY SECRETARIAT



TERMS OF REFERENCE (TOR)

FOR

**CONSULTANCY SERVICES FOR THE IMPLEMENTATION OF A
CENTRAL OF PAYMENT INCIDENTS (CPI) FOR THE BANK OF THE
REPUBLIC OF BURUNDI (BRB)**

REFERENCE: EAC/PSSIP/QCBS/2024/01

**EAC PAYMENT AND SETTLEMENT SYSTEMS INTEGRATION
PROJECT (EAC-PSSIP)**

**EAC SECRETARIAT
Arusha, Tanzania
February, 2024**

1. Introduction

Following a request from the EAC Secretariat to the African Development Bank (AfDB) in June, 2010 to support the areas of Payment and Settlement Systems Integration and development of the Microfinance Sector of the EAC-Financial Sector Development and Regionalization Project (FSDRP), the AfDB committed to support Payment and Settlement Systems Integration. Consequently, a series of discussions were held between EAC and the AfDB beginning with a conference in Kigali in December, 2010. The conference recommended the EAC Payment and Settlement System Integration Project (EAC-PSSIP). A roadmap illustrating the broad timing and objectives to be undertaken was adopted by the 13th Meeting of the Monetary Affairs Committee (MAC) held in Zanzibar, December 2010.

The EAC-PSSIP is an integral part of the Financial Sector Development and Regionalization Project's (FSDRP) higher objective of broadening and deepening the financial sector and is aimed at complementing the integration of the regional financial market infrastructure to facilitate the undertaking of cross border funds transfer in support of the economies of the region as a whole. The project objective is to contribute to the modernization, harmonization and regional integration of payment and settlement systems.

The project specifically aims at enhancing convergence and regional integration of payment and settlement systems; and strengthening a harmonized legislative and regulatory financial sector capacity in the Partner States. The Project is structured under the following components:

Component 1: Integration of Financial Market Infrastructure

Component 2: Harmonization of Financial Laws and Regulations;

Component 3: Capacity Building.

Under Component 1: The EAC Secretariat is procuring consultancy services for Implementation of a Central of Payment Incidents (CPI) for Bank of the Republic of Burundi (BRB), to which this Terms of Reference (TOR) relates.

2. Background

A project within the BRB is still in discussions for the establishment of an information centre in the form of a reference credit bureau to deal with and process credit information. Specifically, the centralization of information on payment defaults for a number of payment instruments such as cheques, direct debits, payment cards, etc. will be handled separately within the CPI, which is the subject of the current consultancy.

Through the support of donors such as the World Bank Group and the AfDB, the BRB has already made significant progress in implementing reforms aimed

at modernizing its overall information system in general, and payment and settlement systems in particular. Indeed, the BRB has already operationalized its new IT infrastructure which constitutes the technical basic layer on which all the software applications and information management systems at the BRB shall turn on.

Through the same support, the BRB has, since the beginning of year 2017, operationalized its new payment and settlement systems having as components an Automated Transfer System (ATS). The ATS system includes the Real Time Gross Settlement System (RTGS) and Automated Clearing House (ACH) with an integrated and incorporated Cheque Truncation sub-system. The BRB has also commissioned a Central Securities Depository (CSD) system closely linked to the ATS payment and settlement system for the automation and processing of securities and its cash counterparties under the Delivery versus Payment (DvP) principle.

In the same context, the BRB is in the process of finalizing the implementation of its new Core Banking System (CBS) which is expected to be operationalized in the near future. Also, as part of modernization of payment and settlement systems, the BRB is committed, in close collaboration with the commercial banks and the Régie Nationale des Postes (RNP), a Postal Bank, to the implementation of an interoperable National Payment Card Switch, including mobile and internet payment modules and will be integrated with the RTGS. This project is in its final phase of implementation.

Provided the implementation of all those projects, and in accordance with relevant international standards and best practices in the payment and settlement systems sector, the BRB must ensure reliability, efficiency and robustness of the payment and settlement systems, as provided in its legal framework (BRB Status – Law No. 1/34 as of 2nd December 2008) and in Law No. 1/07 of 11st May 2018 on the National Payment System.

It is in this context that the BRB intends to implement a CPI to identify, prevent and avoid cases of presentation, in payment and settlement systems, of a number of payment instruments comprising, or having already been subject of registration, risks or proven cases of non-payment in the payment and settlement systems.

3. Objectives of the Consultancy

The objective of the consultancy is to recruit a consulting firm to offer services for the operational implementation of a system consisting of a CPI which is relatively limited to the processing of payment instruments such as cheques, bills of exchange, direct debits, cards and other retail payment instruments. Technical coordination of implementation services of the system will be provided by the BRB, while financial and administrative aspects will be managed by the EAC Secretariat through funding from the AfDB.

4. Missions and Tasks of the Consultancy

The Consultant (firm) sought in the framework of this service will have as main mission to work on the effective establishment of a CPI fully integrated into the information systems of the Central Bank, the commercial banks and the Régie Nationale des Postes, the latter being participants in Burundi's payment and settlement systems.

The main tasks assigned to the Consultant are as follows:

- Review the minimum expected functionalities of the CPI as described below in section 5.1 of this document and make necessary modifications /additions that are necessary and effective to achieve objective pursued, namely, the implementation of a CPI at the BRB;
- Provide comments on the presented terms of reference based on the degree of understanding of the consultant's expected assignment;
- Provide detailed specifications of the CPI according to the expectations expressed by the BRB and modifications and/or additions made by the Consultant and validated by the BRB;
- Finalize, together with the BRB teams, the discussions on the functional and technical specifications of the CPI as provided by the Consultant;
- Develop the different applications/modules required from the CPI;
- Ensure the knowledge transfer to the BRB's technical team by closely involving its members in the development of the applications/modules required by the CPI;
- Provide the integration tools (interfaces) of the CPI with the different information systems of the participants;
- Collaborate closely with the integrators/providers and users of the information systems linked (or to be connected) with the CPI, the latter having to develop themselves the integration to the CPI;
- The development of the integration of the CPI with other information systems will be carried out by the integrators of these systems but in close collaboration with the Consultant, particularly with regard to the provision of information, documents and guidance/advice necessary for the development of interfaces;
- Take into account the rules, norms and procedures governing the functioning of payment and settlement systems currently in operation at the BRB and within the Burundian banking community when developing the modules related to the CPI;
- Ensure compliance with the security of the target system to be set up (CPI), which must notably respect the following general characteristics:
 - Authentication of the stakeholders and participants;
 - Confidentiality of information exchanges;
 - Integrity of the data exchanged;
 - Audit trail at database access level and normal operating level of the target system.

- Ensure scalability of the target CPI system. The CPI system must indeed be an open system by allowing the management structure of this system to substantially reduce operating costs and increase their efficiency while controlling the risks associated with the interaction with external systems. The scalability of the CPI will have to comply, inter alia, with the evolution of the market, the technology evolution and the likely appearance of new actors and partners to interface with the CPI;
- Ensure the training of trainers (operational users and technical staff) of the Central Bank to which will be added those of the commercial banks and the RNP;
- Provide training materials for administrative staff, IT staff and BRB users, commercial bank participants and Régie Nationale des Postes and other potential users;
- Provide the necessary documents and tools for system testing, start-up and operation of the solution;
- Perform, together with the Central Bank, the tests of the system and ensure that the solution meets the functional and technical requirements expressed in the detailed specifications of the system;
- Make available to the BRB all the complete documentation on the product;
- Ensure the effective commissioning of the system and assist the Central Bank for a period of one month after go live;
- Provide system support and maintenance for a period of at least five (5) years from the date of expiration of the warranty.

The **working language** throughout the mission period will be **FRENCH**.

5. Scope of the Services

The CPI must be designed and developed with at least functionalities described below and to be operationalized within the current BRB's IT environment, the description of which is provided in section 4.2 of this document.

5.1. Minimum expected features of the CPI

In order to comply with international standards and other good practices, and with a view to extending the implementation and consolidation of payment and settlement systems, the BRB intends to complete the newly established payment and settlement systems by setting up a system component consisting of a **Central of Payment Incidents (CPI)**.

This system will be closely linked to the internal information systems of the Central Bank, including payment systems, those of commercial banks and the Régie Nationale des Postes (Postal Bank), to ensure efficient and effective payment management by identifying and communicating all payment incidents throughout the information chain to all participants' systems to prevent and

avoid payment instruments that have been subject of payment incidents from being re-represented in the systems without being regularized.

The CPI will therefore have to collect, from the participants' information systems, information relating to payment incidents occurring during the processing of payment transactions on cheques, bills of exchange, direct debits, and payment cards. It will store them and make them available in consolidated form for the purpose of communicating them to all participants and, in certain circumstances, to other stakeholders such as the authorized judicial institutions. The collected data should then be used as references to avoid the transmission, in the payment process, of data on payment instruments whose reference systems are already included in payment incidents and which have not yet been regularized.

Thus, the following modules from and/or to the information systems of the BRB, the commercial banks and the Régie Nationale des Postes should be consulted:

- Modules for processing check payments;
- Modules for the payment of bills of exchange;
- Modules for processing direct debits; and
- Modules for processing card payments.

The CPI must be an application (or an applications module) open to provide easy access to any other future information system that would be developed later and whose need for integration would be proven and communicated to the Central Bank.

Payment incidents must be recorded for the various payment instruments such as cheques, bills of exchange, direct debits, cards payments, etc. The payment incidents must be identified and located at the level of a participant in the payment and settlement systems (Central Bank as participant, commercial bank, Régie Nationale des Postes) or at the interbank level from the clearing system managed by the Central Bank.

Intra-bank and inter-bank payment incidents must be reported to the CPI for registration, storage and communication to other participants in the payment & settlement systems. The CPI consolidates all payment incidents transmitted by the participants and communicates this information to all participants.

Participants should ensure that everything is done to manage payment incidents information on the aforementioned instruments in order to track, store and communicate them and prevent any further attempts to represent them in the payment systems without having corrected them/or regularized the reasons that led to their rejection.

In certain circumstances, the CPI may also communicate information on cheques without provisions to the judicial information system of the Office of the Prosecutor General of the Republic of Burundi. The latter may disclose certain court decisions made against account and cheques holders with an impact on the issue of checks and other payment instruments which must be taken into account in the management of these payment instruments.

Conceptually therefore, the information systems of the commercial banks, the Régie Nationale des Postes (RNP), the Central Bank and the Burundi National Switch will be interconnected to the CPI to communicate information allowing them to record payment incidents occurring during the processing of payment information and on the basis of the payment instruments identified.

In return, the CPI will inform the information systems of the collected data relating to recorded payment incidents to enable them to take them into account, in particular by rejecting them if they have not been subject of regularization, when processing their payment transactions.

In fact, transactions already recorded by the CPI as not fulfilling the required parameters for their processing and settlement, must not be represented by any information system before lifting of their prohibition or their regularization and the related communication by the CPI.

Hereafter are the payment information flows to/from the CPI from/to external systems:

5.1.1. Cheques processing modules of core banking systems

- The participant (BRB, commercial bank, Régie Nationale des Postes) via its cheques processing module transmits to the CPI, via a secure internet portal, the information relating to unpaid cheques for various reasons such as insufficient funds, fraudulent cheques, irregular cheques etc. and must include the following details of the refused cheque(s);
 - The cheque number;
 - The drawn bank code;
 - The drawn bank branch code;
 - The bank account number;
 - The currency code;
 - The check digit;
 - The cheque amount (in numbers);
 - The cheque amount (in letters);
 - The place of issue of the cheque;
 - The date of issue of the cheque;
 - The date of payment of the cheque;
 - The name of the cheque issuer;
 - The drawn bank;
 - The name of the payee of the cheque;

- The beneficiary's bank;
- The beneficiary bank code;
- The beneficiary bank branch code;
- The beneficiary's bank account number;
- The reason for the refusal of payment of the cheque, etc.
- The CPI records in its database the information transmitted to it by the participant's information system;
- The CPI consolidates information received from all the participants;
- The CPI makes available to all the participants, via a secure internet portal, the consolidated data of all participants on unpaid cheques due to the different reasons of rejection/refusal;
- The CPI also transmits consolidated information on unpaid cheques to the Attorney General's Office;
- The transmission of consolidated information can be done on a regular basis (daily, weekly, monthly, etc. for those who are not connected online);
- The consultation of information available to participants can also be done online via the internet portal with secure access made available to the participants by the Central Bank;
- Access to the internet portal by the participants is provided by the technical manager of the CPI within the Central Bank;
- As soon as the conditions that led to the non-payment of the cheques are no longer applicable (regularization by the issuer of the cheques, etc.), the participant at the origin of the cheque information transmits corrected information to the CPI and the latter updates the database.

5.1.2. Trading effects processing modules of core banking systems

- As soon as a commercial paper (bill of exchange and / or promissory note) issued by a client is refused for payment by a participant (BRB, commercial bank, RNP etc.), this participant is required to provide the information relating to this commercial paper at the Central of Payment Incidents;
- The Central of Payment Incidents records in its database the information transmitted to it by the participant's information system;
- The CPI consolidates the information received from all the participants;
- The CPI makes available to all participants, via a secure internet portal, the consolidated data on the unpaid commercial papers with reasons of refusal;
- The transmission of consolidated information can be done on a regular basis (daily, weekly, monthly, etc. for those who are not connected online);
- The consultation of information available to participants can also be done online via the internet portal with secure access made available to the participant by the Central Bank;

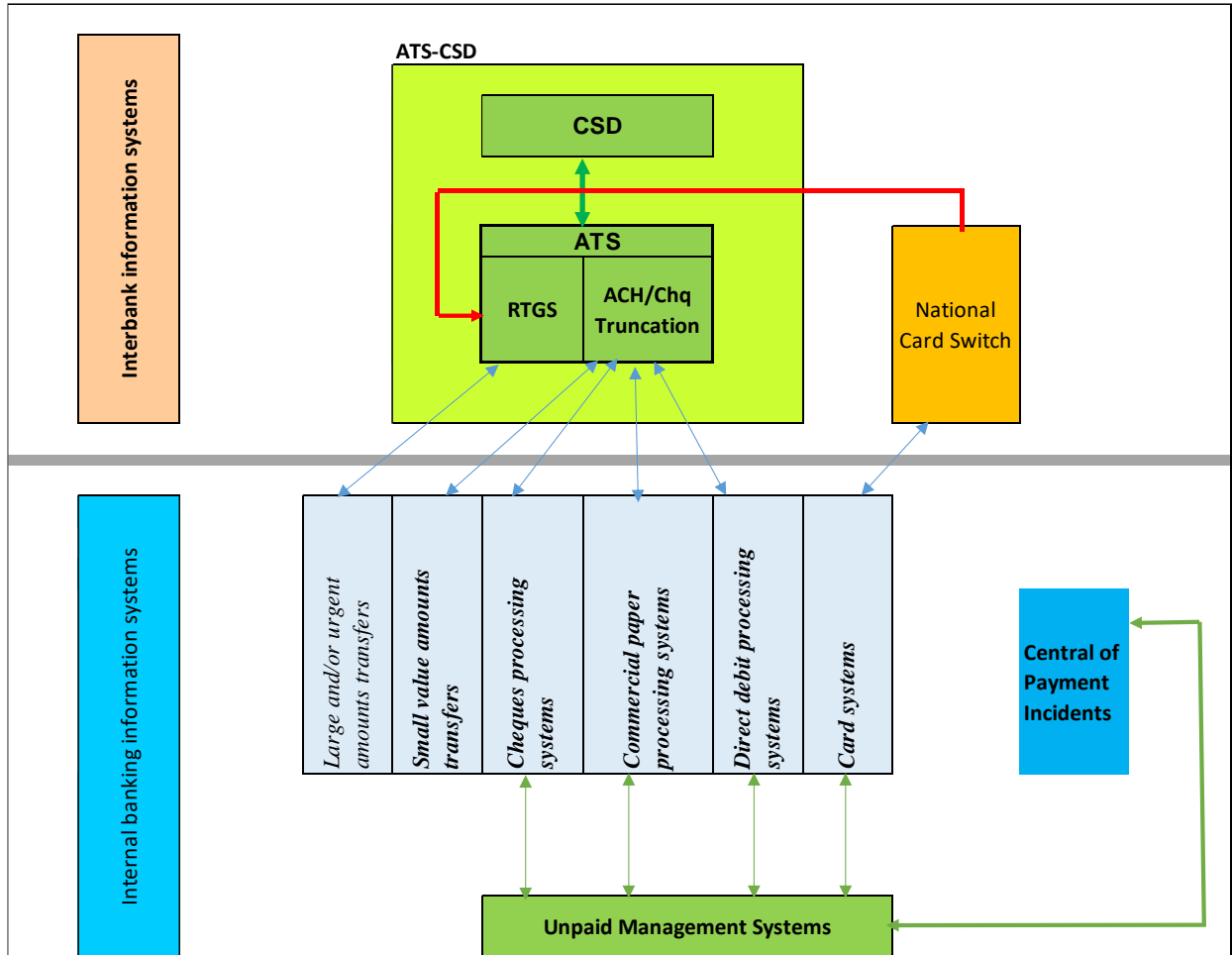
- Access to the internet portal by the participants is provided by the technical manager of the CPI within the Central Bank;
- As soon as the conditions that led to the non-payment of the commercial paper are no longer applicable (regularization by the issuer of the commercial paper), the participant at the origin of the information of the commercial paper transmits corrected information to the CPI and the latter updates its database.

5.1.3. Card payment systems

- In the processing of card payment transactions, information on payment cards declared non-payable (fraudulent cards, etc.) is provided by the CPI participant and must include the following details of the card (s) refused payment(s);
 - The card number;
 - The expiry date;
 - The name of the cardholder;
 - The issuing bank code;
 - The name of the issuing bank;
 - The issuing bank address;
 - The bank account number attached to the card;
 - The code of the bank branch in which the bank account is opened, etc.
- The Central of Payment Incidents records in its database the information transmitted to it by the participant's information systems;
- The CPI consolidates information received from all the participants;
- The CPI makes available to all participants, via a secure internet portal, the consolidated data on payment cards whose payment instructions are not executed due to various reasons;
- The transmission of consolidated information can be done on a regular basis (daily, weekly, monthly, for those who are not connected online);
- The consultation of information available to the participants can also be done online via the internet portal with secure access made available to the participant by the Central Bank;
- Access to the internet portal by the participants is provided by the CPI manager within the Central Bank;
- As soon as the conditions that led to non-payment of payment cards are no longer applicable (regularization by the issuer of payment cards, etc.), the participant at the origin of the payment card information transmits corrected information to the CPI and the latter updates the database.

The following diagram illustrates the functional design of the CPI which will be included in the functional specifications of the tender documents that will be submitted to potential bidders for the implementation of this system.

Fig. 1: Functional diagram of the expected Central of Payment Incidents in the overall scheme of Burundi's National Payment Systems



5.2. Technical Environment of the CPI

The current technical infrastructure of the BRB on which the solution of the CPI will have to be operationalized is based on the following technical elements:

5.2.1. IT Infrastructure

The BRB's IT environment is based primarily on a Microsoft virtualized technical infrastructure. A Data Center and a Data Recovery Center have been built. The Data Center and Data Recovery Center are separated by a 130 km distance and are designed to provide high data availability with synchronized redundancy of data on both platforms. For its modernization projects, the BRB has set up a cloud, the Infrastructure as a Service (IaaS) which allows it an easy scalability of its infrastructure, a security of its data but also a high availability. The BRB has two Central Bank branches and is ready to open a third in the early 2019 year. Users working in the Central Bank branches can

access the headquarters infrastructure through an MPLS link set up for this purpose.

The Data Centre has a virtualized technical environment under Hyper-V technology. Physical servers are of high capacity with a storage array (SAN Storage) with a high capacity. An environment for Backup is available with replication in the Data Recovery Centre. Each network equipment has its back up to define and maintain high availability. The cabling at the access switches is redundant and the switches are in stacking mode.

The Data Centre also houses the computer equipment of the National Card Switch to be operated by commercial banks. A power room to ensure electrical energy has been installed with inverters and voltage regulators under state-of-the-art technology.

5.2.2. Security requirements

The BRB network is segmented and it is a hierarchical network. To access the BRB network, strategies have been put in place for this purpose and these are transparent through the BRB's Global Information System Security Policy. Firewalls are installed at the network exit / entrance and are of the Fortigate brand. Security rules are implemented in firewalls at each VPN that allow the Central Bank correspondents to access internal resources. These are managed at the demilitarized zone (DMZ) level.

5.2.3. Networks

The BRB has a computer network with very high availability. The cabling system is based on fiber optic cabling as well as the twisted pair. For its network, the BRB has adopted the use of interconnection elements of the CISCO manufacturer for switches and routers as well as the Fortinet manufacturer for firewalls.

5.2.4. Business Continuity Plan and Information Security Management System

The implementation of a system to ensure business continuity in the event of occurring of major incidents at the Bank's headquarters is being finalized. From this 2019 year, it will enable the Central Bank to ensure that its essential activities are carried out normally in the event of temporary unavailability of the Bank's headquarters infrastructure.

The Central Bank is seeking a certification of its computer global system to comply with the ISO/IEC 27001 standard which is related to the management of the security of information systems. The implementation of this standard is in progress.

5.2.5. Expected system performance

The BRB expects that the CPI to be a central system capable of listing all incidents related to the payment and settlement systems and making them available to all participants and potential partners involved. The processing time of a request by the system and that of the system response must be as short as possible.

5.2.6. Monitoring tools

The BRB has recently acquired monitoring tools for its IT infrastructure including PRTG, Log tracker and change tracker. In addition, the BRB has a Helpdesk platform based on the Microsoft System Center Configuration Manager.

5.2.7. Technical administration of the system

BRB's current technical system is administered by platform administrators, network and IT security administrators, system administrators, backup system administrators, core banking administrators, administrators of other systems, and so on. With the ISO/IEC 27001 standards actually being implemented, a security policy recommends administration rights management of all the Bank's technical systems.

6. Consultant's Qualifications and Key Competencies

The missions and tasks specified in section 4 above will be entrusted to a Consultant (firm) with the skills listed below. In particular, the Consultant must meet the following requirements:

6.1. General experience

The Consultant (firm) must have a general experience of at least ten (10) years in the realization of the missions related to the installation of information systems oriented in payment systems, and particularly the solutions related to information centers.

6.2. Similar relevant experience

The Consultant (firm) must have a specific experience of at least five (5) years in the realization of similar and relevant work and have successfully participated in deployments of solutions related to central of payment incidents (CPI). Having a similar project in a central bank may be an advantage.

6.3. Methodology, organization and project management

The Consultant (firm) must have and present a proven methodology in the organization and conduct of projects of the same nature and scope and in accordance with the international standards in such field. In addition, the consultant must submit a project organization and management plan that meets the relevant standards, in this case the PRINCE2 project management methodology.

6.4. Staffing

The Consultant (firm) must have a staff with proven skills in the field of information systems in general and payment systems in particular and demonstrate a perfect mastery of functional, technical and regulatory aspects in an interbank context. Specifically, the consultant must have, at a minimum, the following staff with the following minimum requirements:

6.4.1. Project Manager

The Project Manager shall:

- Have at least minimum, a Master's degree (BAC + 5) in Computer Science or equivalent;
- Demonstrate relevant experience of at least 5 years as Project Manager for the implementation of an information system;
- Justify at least two missions of similar work in this field;
- Demonstrate a perfect mastery of standards and best practices in information and payment systems;
- Be bilingual (French and English).

6.4.2. Expert in Banking Information System

The Expert in Banking Information System shall:

- Have at least a Master's degree (BAC + 5) in Computer Science or similar;
- Demonstrate relevant experience of at least 5 years as an expert in the implementation of an information system in the banking sector;
- Justify at least two missions of successful implementation of an information system in the banking field;
- Be bilingual (French and English).

6.4.3. Expert in Payment Systems

The Payment Systems Expert shall:

- Have at least a Master's degree (BAC + 5) in Computer Science or similar;
- Demonstrate relevant experience of at least 5 years as an expert in the implementation of payment systems in the banking sector;
- Justify at least two successful implementation missions of payment systems;
- Be bilingual (French and English).

6.4.4. Expert in Network Infrastructure and IT Security

The Expert in Network Infrastructures and Computer Security shall:

- Have at least, a Master's degree (BAC + 5) in Computer Science;
- Demonstrate relevant experience of at least five (5) years as IT Infrastructure Project Manager in the banking sector;
- At least two (2) successful missions to implement similar systems;
- Be bilingual (French and English).

For all these profiles mentioned above, having a similar experience in a Central Bank will be an advantage.

The Consultant (firm) may present a reduced staff number provided that the minimum skills and areas of expertise mentioned above are covered.

The Consultant (firm) must demonstrate a real ability to identify and take into account the regulatory framework defined by the Central Bank in the context of payment systems.

His knowledge in the main areas of the payment systems business will have to be sufficiently diversified to allow him to take into account all the types of issues that may be raised during the realization of such a mission, particularly in terms of functionalities, infrastructures, software, stakeholders and partners and their respective information systems, etc.

The Consultant must describe the skills, roles and responsibilities of the proposed team of experts members, including their CVs.

To ensure the maximum transfer of knowledge, the Project Consultant team should be structured to work with their BRB's counterparts and the proposals should specify the bidder's expectations regarding the structure and management of the BRB team as well as their roles and responsibilities.

The BRB expects that the project team proposed by the bidder, especially the main specialists, will be assigned to this project throughout its duration. If any of the expected resource persons become unavailable for the project for reasons beyond the Consultant's control, the Consultant shall immediately appoint replacement persons, with at least equivalent capabilities and experience, and such designations must be subject to the prior approval of the BRB. The BRB may at any time request the Consultant to replace a member of the project team of the consultant assigned to this project, if need be.

6.5. Project plan, location and duration of the Services

- A project plan relating to the implementation of the mission and modifiable MS Project version must be presented with details of the

location (onsite and/or offsite) of achieving its missions and the duration of the respective interventions;

- The locations of the mission are: Bujumbura (at the premises of the BRB and, if necessary, at the headquarters of participants all located in Bujumbura) and the Consultant's headquarters;
- Missions to the sites of bidders and/or their clients that could be visited as references;
- The mission shall commence with the signing of the contract between the BRB and / or the East African Community Secretariat on the one hand and the Consultant retained on the other hand and continues for a period not exceeding nine (9) months.

7. Outputs and expected deliverables

- It is expected from the Consultant (firm) to provide a detailed description of the methodology and tools that will enable him/her to perform the missions and tasks described above with a view to fully achieving the objectives of the project;
- The Consultant (firm) must provide a draft contract for the implementation of the Central of Payment Incidents;
- The Consultant (firm) must provide a draft support and maintenance contract for the Central of Payment Incidents;
- At the end of the mission assigned to the Consultant, the BRB will have a fully operational information system dedicated to the Central of Payment Incidents fully integrated with its core banking information system and its payment and settlement systems. The Central of Payment Incidents shall also be integrated with the commercial banks and the Régie Nationale des Postes information systems.