**Technical Requirements**

**Payment Gateway Solution**

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MIC2 is seeking proposals from prospective Payment Gateway Solution Providers for the deployment and integration of a full fledge, internationally accredited state-of-the-art Payment Gateway Solution in terms of security, functionality and manageability to enable customer payment acceptance over MIC2 online platforms (Mobile App and Website) and/or in-store.

The successful proposer shall provide at a minimum a solution encompassing the following Technical Requirements:

# Transaction Security

The proposer is responsible for ensuring that appropriate organizational, procedural, and technical controls are in place to safeguard MIC2 and customer information.

* The proposer must submit a valid report from PCI Security Standard Council with expiry date not past submission date attesting that the organization is in full compliance with the PCI DSS:
* The proposer must implement strong encryption mechanisms to protect cardholder data during transmission and storage such as using Transport Layer Security (TLS) to encrypt data in transit and encryption algorithms to encrypt data at rest
* The proposer must ensure that cardholder data is transmitted securely over public and private networks like employing secure protocols such as HTTPS when transmitting data over the internet
* The proposer must implement robust measures to protect cardholder data from unauthorized access like firewalls and other control measures
* The proposer must provide evidence such as system architecture diagrams illustrating data flaw to ensure that customer electronic data is not stored within MIC2 billing system
* The proposer must demonstrate that the payment solution ensures the integrity and authenticity of all transaction notifications sent to the MIC2 platform, whether via server-side callbacks (webhooks) or client-side signals. The system must effectively prevent any unauthorized or forged notifications that could falsely indicate a successful transaction when it was actually declined, aborted, or never occurred. Proof includes API documentation showing webhook security (e.g., signature verification, static IPs), **safely protected contents** of data transmission examples (**encrypted, signed, or validated)**, and a flow diagram from gateway to MIC2 backend.
* The proposer must send transaction status notifications to the MIC2 platform using outbound HTTPS requests from static IP addresses. These notifications must include automatic retry mechanisms to handle failures caused by timeouts, downtime, or network issues. As proof, the platform must provide API or integration documentation that outlines the callback mechanism, retry intervals and limits, a list of fixed IP addresses or a dedicated IP range.

# Transaction Processing

* Payments: The proposed solution must be capable of providing full support for processing payments via traditional Credit and Debit Cards and digital wallets.
* Payment Method: The proposed solution must support payment processing through a comprehensive range of vendors/platforms, including but not limited to AmEx, Visa, MasterCard, and Diners Club
* Payment Platforms: In order for the payment information (Credit card number. Expiry date etc...) not to transit through MIC2 backend systems, the proposed payment platform must demonstrate support for at least one of the following secure client-side integration models:
* Hosted Checkout: Whereas the client can be redirected to a web form on the Payment Platform where the user will input all the payment details (Credit Card number, expiry date etc...). The input will be submitted to the Payment platform. The Payment platform can and will redirect the customer's browser to configurable success/failure pages on the MIC2 website.
* JavaScript checkout: A custom Web form on MIC2 web site can be created where the user will input all the payment details (Credit Card number, expiry date etc...). The input will be submitted to the Payment platform through the provided JavaScript without being passed to MIC2 web site.
* POS: The proposer must prove the ability to offer POS terminals that are compatible with all major card types including Visa, MasterCard and AMEX among others as well as modern payment methods Like NFC or mobile wallets. Proof should include datasheets and technical specification of the proposed models, along with case studies or reference letters confirming large-scale deployments.
* Kiosks: The Proposer must demonstrate successful integration with self-kiosk systems that support card payments. Proof must include system architecture diagrams detailing the end-to-end flow, technical integration documentation from real-world implementations, and confirmation from previous clients or certified partner documentation.
* This must be documented in the integration documents / APIs of the Payment platform.
* Transactions and maintenance operations can be processed through Merchant's page, Redirection, MOTO (Mail Order/Telephone Order), Recurring.
* Capability to integrate with MIC2 shopping carts/E-commerce platform
* Payment platform will notify MIC2 platform from dedicated servers with fixed IPs about the result of the transaction. The notification will be retried several times between the 2 platforms in case of network disconnection.
* The Payment platform will provide an API to MIC2 that allows it to query the outcome of any transaction.
* The Payment platform can redirect the customer browser to a configurable success / failure pages on MIC2 web site and securely provide the result of the transaction
* Tokenization: The proposed solution must support robust tokenization of cardholder data to protect sensitive information and prevent Credit/Debit Card fraud, enabling features like "Recurrent Payment", "Easy Checkout" and IVR payments. Tokens must be reusable across sessions without storing raw cardholder data, and. Tokenization must comply with PCI-DSS and securely store Primary Account Number (PAN: full card number) data outside MIC2 systems. Proof must include documentation of the tokenization process life cycle, sample API request for token operations, and reference or case studies of token-based payment implementation.
* Fraud Management System: The proposed solution must preferably support the latest 3-D Secure (3DS 2.x) protocols across major card networks, with smooth integration on both desktop and mobile platforms. It should also feature an AI and machine learning-powered fraud management system that can detect and act on suspicious transactions while maintaining a balance between risk prevention and approval rates, using tools such as risk scoring, device checks, and adaptive rules. Proof includes technical documentation, certifications, live transaction examples, fraud system details, descriptions of ML models, and case studies showing reduced fraud and accurate detection.
* Transaction Fees: The Proposer must present a detailed schedule of transaction fees associated with each service offered, applicable to both online and in-store channels. The fee breakdown must specify charges for Local and International card transactions, presented in both USD and LBP currencies, and include a breakdown by card scheme (e.g., Visa, Mastercard, Amex, etc.). The pricing structure must clearly outline percentage-based fees applicable to each transaction type, including purchases, refunds, and chargebacks, along with detailed information on any other specific charges. All fees must be fully transparent, with no hidden or conditional costs. The fee structure must include the following details per card scheme and transaction type:
  + Postpaid invoice payment Local cards USD/LBP
  + Postpaid invoice payment International cards USD/LBP
  + Prepaid e.recharge Local cards USD/LBP
  + Prepaid e.recharge International cards USD/LBP
  + Sales – Products/Services Local cards USD/LBP
  + Sales – Products/Services International cards USD/LBP
  + POS Local cards USD/LBP
  + POS International cards USD/LBP
  + Additional charges (if any)
  + The system must allow MIC2 to decide to either absorb or pass processing fees onto the customer or even support the hybrid approach where MIC2 might absorb a portion of the processing fee and pass on the remaining part to the customer.
* Real Time Processing:
  + The proposed solution must be able to authorize Credit/Debit Card transaction in real time
  + The proposed solution must be able to transmit complete payment details back to MIC2 billing system real time
  + The proposed solution must generate alerts in case of transaction processing metrics exceed or drop below specific thresholds (ASR, latency…).
  + The proposed solution must maximize uptime by ensuring redundant processing capability in the event of a hardware or network issue.
  + The proposed solution must support sending notifications to customer and MIC2 based on success/failure of purchase/authorization/capture/refund.

# Financial Processing and Funds Settlement

The proposer must confirm their capability to support the following financial settlement and reconciliation models for payment processing services provided to MIC2.

1. **Gross Settlement Model (Without Netting):**

* All funds must be credited in full to MIC2’s accounts immediately upon completion of the transaction with no deductions for any associated transaction fees Transaction fees will be settled with the vendor in the month following closing, after reconciliation. For the purposes of this clause, a month is defined as the period from the 1st to the 28th/29th, 30th or 31st, as applicable.
* All processing related fees must be invoiced in two separate invoices on a monthly basis, per payment currency (USD/LBP), with each invoice clearly itemized by:
  + Transaction category (e.g. Local, International)
  + Card details, including:
    - Card type or Network (e.g. Visa, Mastercard, AMEX, etc…).
    - Applied commission percentage.
    - Any other relevant financial parameters or fee components.

The invoice must provide sufficient detail to enable full validation, reconciliation, and audit of all applied charges by the proposer.

* MIC2 reserves the right to verify, query and delay payment on any disputed line items in the invoice prior to settlement of the fees.
* All transactions and payments received through Cards issued from Lebanese Banks must be settled in the same currency selected by the customer at the time of transaction completion. Payments received in USD currency must be settled in full (100%) in Fresh USD.
* All transactions and payments received through Cards issued from International Banks must be settled in full (100%) in Fresh USD, even if the payment is made in LBP at the time of transaction completion.

1. **Settlement Based on Transaction date:**

* Settlement must be aligned with the original transaction date, rather than the processing date, to support proper revenue recognition and customer billing alignment.
* The proposer must provide daily settlement files clearly categorized by transaction date, even if processing occurs on a different date.
* Delayed settlements must retain the original transaction timestamp for reporting and reconciliation accuracy.

1. **Card Scheme – Specific Settlement:**
2. POS Transactions:

The solution must support settlement of all Point of Sale (POS) transactions in line with standard industry practices:

* + Settlement based on processing date
  + Timely settlement on a T+1 basis, where “T” represents the transaction date and “+1” denotes the next Business Day. In the event that the subsequent day is a non-Business Day (e.g., weekends or public holidays), settlement shall be executed on the next available Business Day. The proposer must detail their settlement timelines and any dependencies that may affect T+1 processing.
  + Separate reporting of POS vs online transactions unless integrated reporting is specifically requested.

1. AMEX Transactions:

* The proposer must support American Express (AMEX) transactions under either a direct or aggregator model, based on market requirement.
* The proposer must:
  + Report AMEX transactions in the same structure and frequency as other card schemes (Visa, Mastercard, etc…).
  + Handle settlement of AMEX funds directly with MIC2, avoiding the need for a separate AMEX agreement unless required.
  + Be responsible for remitting fees to AMEX, and invoice MIC2 separately and transparently for these fees.
  + Include AMEX data in all applicable settlement, fee and reports for end-to-end reconciliation

1. **Refunds and Chargebacks:**

* The proposer must clearly outline the process and fees associated with refunds and chargebacks. All such fees must be borne by the proposer, regardless of the chargeback reason, except in cases where the chargeback results from a technical fault attributed to MIC2.
* All such transactions must be clearly identified and reported, with links to original transaction ID and relevant settlement details.

# Reporting and Reconciliation

* The solution must include a web-based interface accessible to MIC2 designated staff for reviewing all activities. Access privileges will be determined based on the user’s authentication level
* The system shall provide administrative interfaces that supporting payment processing functions, including authorizations (accepted/declined), charges, settlement, credits, refunds, voids and chargeback.
* The administrative tool shall also feature a real-time dashboard displaying detailed transaction information.
* The solution must allow for the creation and saving of a customized report templates.
* The solution must also ensure accurate reporting and reconciliation for AMEX transactions, consistent with those of other supported card schemes
* The solution must provide robust reconciliation tools, including:
* Daily and monthly settlement tools
* Full gross transaction listing with corresponding settlement values
* Exception reports identifying:
  + Settlement or processing delays
  + Rejected transactions

Reports must be available via secure portal access or automated API integration

# Transaction Visibility

The solution must ensure complete visibility into all transactions across their entire lifecycle, from initiation to settlement, including:

* Real-time access to transaction data via secure portal or APIs.
* Unique transaction ID traceable across authorization, capture, settlement, refund, chargeback and adjustment stages.
* Full transaction details, with filtering options at minimum by date range. Data should include key fields like Transaction ID, timestamp, processing date, payment method, amount and currency, transaction status, customer identifiers (where privacy laws permit), BIN number and Bank identifier (international/Local). Export formats must support at least one standard machine-readable format such as CSV, Excel, PDF. Proof required includes screenshots or documentation demonstrating filtering and export features, as well as API documentation for programmatic exports if available
* User shall be able to save sets of filtering criteria for future searches.
* Categorization for Card Type as either Local or International
* Categorization of the transaction currency used at the time of transaction completion
* Categorization of payments by channel (App, Website, SMS, etc…)
* Categorization of failed transactions

# Analytics and Dashboards

The solution must provide comprehensive analytics and dashboard capabilities to support real-time monitoring, historical analysis, and business intelligence across all payment channels.

* + All transactions shall be capable of being:
    - retrieved for a user-defined period
    - presented by day, week, month or year
    - displayed as either count or amount or both
    - filtered by a selected criteria, including currency, payment option, channel, status, card type, local/international, country…
    - grouped based on specified criteria
  + Graphical Interface (Charts) for the following figures/insights must be available:
    - Side by Side comparison of transactions based on specified dimensions (e.g. Successful vs. Declined, Sales vs. Refunds, etc.)
    - Top “Decline” reasons for failed transactions
    - Top/Bottom Payment Options/issuers/channel based on specific dimensions or KPI (e.g success ratio, payment volume...)
    - Optional geographical representation of the payment country of origin
    - Average transaction value
  + Users’ transaction details must be capable of integration with data from other systems (e.g. billing, CRM…)
  + Intelligence module (optional): This module shall create customer profiles around based on their payment transactions and service usage.

# Project Delivery & Deployment

* + MIC2 expects the proposer to deploy the solution within 15 business days
  + The proposer must clearly outline and detail the expected timelines for delivery, installation, integration, and validation.
  + A detailed Project Implementation Plan (PIP) must be provided, specifying each milestone, including but not limited to requirement and design review, Integration, functional validation, and acceptance.
  + Acceptance tests shall be provided by the proposer, and are subject to MIC2’s approval. MIC2 reserves the right to add any necessary tests to the scope a deemed necessary.

# Technical and Business Support

The proposer shall provide the following Technical and Business Support Service Level Agreements (SLA):

* Customer Support Services:
* Customer Service Help Desk
* A dedicated Account Manager to assist with non-technical and commercial inquires
* The proposer must submit SLAs, uptime reports covering the past 12 months, and third-party audit reports verifying system availability. Additionally, documentation detailing fault categorization, response time protocols, and historical performance metrics shall be provided:

|  |  |  |  |
| --- | --- | --- | --- |
| **Classification** | **Criteria** | **Step 1 Identify Source** | **Step 2 Fix** |
| Level 1 – Critical | The Services are at a standstill. The Hexopay Payments System or all Payment Gateways utilized for a particular acquirer or Customer are unavailable. | 30 minutes | Immediate and continuing best efforts but in no event more than 2 hours  (on a 24X7 basis) |
| Level 2 – Serious | The Services are significantly impaired and key business processes, such as transaction authorizations cannot be conducted without significant delay, but payment systems are available | 60 minutes | 4 hours  (on a 24X7 basis) |
| Level 3 – Degraded | Live Payment services such as settlement processing, cannot be carried out without significant delay, but all systems are operational | 2 hours | 8 hours  (on a 24X7 basis) |
| Level 4 – Minimal | Integration and test system issues, minor incidents and enquiries | 8 hours | 48 hours  (on a 24X7 basis) |

# Documentation

MIC2 expects the proposer to provide a complete set of electronic documentation describing the proposed solution including but not limited to:

* + Solution Description
  + Detailed physical, logical, connectivity, topology and functionality diagrams
  + Detailed description of features, interfaces and workflows.
  + Acceptance Test plan
  + Solution interface specifications, including API documentation between MIC2 platforms and the proposer’s servers and systems

# References

* The proposer must provide verifiable proof of at least 3 active local or regional customers meeting these criteria: a combined transaction volume of at least 50K transactions per month and at least 3 years of continuous payment processing at this scale. Proof should include signed reference letters confirming active use, transaction volumes, and relationship duration, along with contracts or service agreements and summarized or anonymized transaction volume reports.

# Training

* The proposer must provide Business/Customer Care training onsite for 6 members.
* The proposer must as well provide advanced technical training for 4 IT members.
* The training must cover all relevant areas, including solution architecture, hardware and software, dimensioning and planning, configuration, administration, protocols and interfaces, integration with provisioning, billing, portal, as well as performance and monitoring.
* The proposer must specify the necessary training duration required to adequately cover all technical skills, subject to coordination and approval by MIC2.
* The proposer must provide the needed training material in soft and hard copy.
* The proposer must provide as part of the training actual hands-on session on the real system similar to what MIC2 will be facing in the Live environment.
* Training must be delivered before the formal launch of the solution and the acceptance tests.