



## REQUEST FOR PROPOSAL



### BOP POS Implementation Program (POS Infrastructure)

Alternate Distribution Channels  
Payment Services Group

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## INVITATION FOR PROPOSAL

- i. The Bank of Punjab (Bank) requests Tender/Bids/Proposal in sealed envelopes for the equipment/application/services mentioned in this document. Proponents applying for bids/proposal should submit two separate sealed envelopes, one containing Technical Proposal and other containing Financial Proposal.
  - ii. The Technical Proposal should contain all the bid items without quoting the price and must list support during warranty period. Financial proposal of the bidders not selected on technical basis will not be opened.
  - iii. All bids must be accompanied by a call deposit of two percent (2%) of total bid amount in favor of Bank and must be included in financial bid envelop.
  - iv. Bid closing date would be 15 days from the date of advertisement in newspaper by 3:00pm. (Closing date will be given on advertisement) In case of holiday, it will be the next business day.
  - v. All prospective bidders are required to register themselves with the Procurement Manager, BOP at given address else wise the bid will stand rejected.
  - vi. Technical Bids will be scheduled for opening on same day at 4.00pm on bid closing date (in presence of all bidders that qualify technically).
  - vii. "Bid Opening Date" referred to the date on which "Financial Bids" of all "Technically Qualified Bidders" will be opened.
  - viii. The Bank will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.
  - ix. Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered.
  - x. All prices quoted must include Taxes applicable, such as GST, Income Tax, etc. Failure to supply items at such prices would lead to cancellation of order & forfeiture of 2% call deposit money.
  - xi. Failure to supply items within the stipulated time period will invoke penalty as specified in clause xxii of 'General Instructions for Bidders'. In addition to that, 2% Call Deposit (CDR) amount will be forfeited.
  - xii. Please make sure, the company seal/stamp is with you at the time of bid opening.
  - xiii. Rights reserved by Bank:
    - a. If at any future point of time, it is found that the bidder had made a statement which is factually incorrect, Bank reserves the right to debar the bidder from bidding prospectively for a period to be decided by Bank and take any other action as may be deemed necessary.
    - b. Bank reserves the right to accept or reject any or all Bids without assigning any reasons. Bids may be accepted or rejected in total or in any part thereof.
    - c. Further, Bank shall have the right to cancel the Tender process at any time without assigning any reason, prior to finalization of the bidding process; without thereby incurring any liability to the affected bidder or bidders. Reasons for cancellation will be determined by Bank at its sole discretion.
    - d. The decision of Bank in all matters will be final and binding on all bidders participating in this bid.
  - xiv. Evaluation criteria
    - a. Bank may call for any additional information / document by way of seeking clarification before the finalization of this tender process. It may also conduct visits at the existing customer of the vendors to verify the information or take any other such measure to ascertain the capabilities of the bidder.
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- b. The bidders will be short-listed on the basis of information submitted by them (and verified by Bank as per its own procedures) in their Technical bids. Subsequently, the financial bids of technically qualified bidders will be opened and compared for selection of the successful bidder based upon package quoted. The entire process will be completely at the discretion of Bank and will be binding on the bidders. Its decision shall be final and no correspondence about the decision shall be entertained by Bank.
- c. The Amount should be quoted in words and figures. In case any amount is quoted in words and figures and there is a discrepancy in the amounts quoted in words and figures, the amount quoted in words will be taken as final.

## GENERAL TERMS AND CONDITIONS

- i. A Bid not submitted in conformity with the specifications / terms & conditions shall not be considered by the Bank.
  - ii. The Bank reserve the right to modify the Bidding Documents at any time prior to the deadline for submission of bids, on the request of the prospective bidders for any clarification or at its own initiative, for any reason. This amendment shall constitute part of the Bidding Documents. In order to afford the prospective bidders a reasonable time to take the amendments into account in preparing its bid, the Bank may at its discretion extend the deadline.
  - iii. The bidder shall prepare one Technical and one Financial Proposal, clearly marking each as "TECHNICAL" and "FINANCIAL". The bidder shall seal the Technical proposal and the financial proposal separately in an INNER and an OUTER envelope, duly marking the envelopes as "TECHNICAL" and "FINANCIAL". Bid submitted in single envelop will be disqualified.
  - iv. The Financial Bid shall comprise of the following:
    - a. The bidder shall complete price schedule clearly for all the items in accordance with the instructions contained in this document.
    - b. The quoted Price shall be inclusive of costs for delivery and installation at the designate sites in Pakistan.
    - c. Financial proposal should contain "Total Cost of Ownership" which should include the price of core system as well as all supporting/surrounding components (i.e. Database licenses, Hardware cost for primary, backup, DR site, middleware application (if required) etc.). Any recommendation from vendor related to additional hardware or application (i.e. active/passive/hot/cold) should be mentioned in the financial proposal as well. The financial proposal should be in conformity of the template mentioned in this RFP document
    - d. The quoted Price shall be valid for Ninety (90) days from the closing date of the bids.
    - e. Price shall be quoted in Pak Rupees.
    - f. The bidder shall furnish, as part of its bid, a bid security for the amount of not less than two percent (2%) of the Total Bid Price.
    - g. The bid security shall be denominated in Pak Rupees. It shall be in the form of Call Deposit Receipt (CDR) issued by a scheduled Bank operating in Pakistan.
  - v. The Technical Bid shall comprise of the following:
    - a. Bidder's warranty and representation to the satisfaction of the Bank that it has necessary authority and
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- permission from its Principal/Manufacturer for supply and installation of the goods/Software Licenses.
- b. Documentary evidence that the items are in conformity with the specifications as laid in this document. This may comprise of literature, drawings and data. The Bidder shall also furnish detailed descriptions of the items along with its salient technical and performance features/characteristics.
- vi. The bid not in accordance with the above will be rejected by the Bank as disqualified.
- vii. The bid security may be forfeited:
- a. If the bidder withdraws its bid during the period of bid validity.
- b. If the bidder does not accept the correction of the Total Bid Price pursuant to Clause xiii.
- c. If the bidder fails to supply the items within the stipulated time.
- viii. The bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the bidder, in which case such corrections shall be authenticated by the person or persons signing the bid.
- ix. The INNER and OUTER envelopes shall:
- a. be addressed to the following address:
- Procurement Manager  
The Bank of Punjab  
1<sup>st</sup> Floor, BOP Tower  
10-B, Block E-II, Main Boulevard  
Gulberg III. Lahore  
Pakistan
- b. bear the following identification:  
Proposal for "POS Implementation Program"
- c. The INNER Envelopes will bear the Name and address of the Bidder, in case it is to be returned unopened.
- x. Every Bid shall be scrutinized by the Bank to see that it meets the criteria as laid down in the Bidding Documents, Prior to the detailed evaluation of the same. A substantially responsive bid is one which:
- a. is accompanied by the acceptable securities;
- b. meets the major technical criteria specified in the schedule;
- c. meets the delivery period
- d. offers clear Price i.e. the bid do not offer an escapable price quotation;
- e. is otherwise complete and generally in order
- f. Conforms to all the terms, conditions and specifications of the documents.
- xi. The acceptability of a Bid shall be determined on the basis of the contents of the bid itself, without needing recourse to any extrinsic evidence.
- xii. Bidder can propose more than one option and in such case, separate price schedule should be provided for each option.
- xiii. The Bidder shall not be provided any opportunity to correct the Bid so as to bring it in consonance with the requirements of the Bidding Documents.
- xiv. A Bid found substantially in accordance with the Bidding Documents shall be checked by the Bank for any arithmetic errors. If any discrepancy is found between the unit rate and the total Price resulting from multiplying the unit rate by the quantity, the unit rate as quoted will prevail and the total price shall stand
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- corrected. Unless in the opinion of the Bank, there is an obvious gross misplacement of the decimal point in the unit rate, in such a case the total price as quoted will prevail and the unit rate will be corrected, and where there is a discrepancy in the total price quoted in the Price Schedule vis-à-vis addition of each item, the total of the itemized prices will govern.
- xv. The Bid shall be evaluated on the basis of the items referred in the document in the Price Schedule.
    - a. It will be examined in detail whether the items offered by the Bidder comply with the Specifications of the Documents. The Specifications will be compared with the Data submitted in the technical bid.
    - b. It will be examined whether the bidder has the capability to provide after sale services properly.
  - xvi. Any pressure by a Bidder to influence the Bank in its decision making shall result in the rejection of its bid.
  - xvii. The Bank reserves the right to accept or reject any of the bids and to annul the bidding process at any time prior to award of mandate, without thereby incurring any liability to the bidder or any obligation to inform the bidder of the grounds for its action.
  - xviii. The Bank will determine to its satisfaction whether the bidder has offered Prices consistent with the current prevailing market Prices.
  - xix. The Bank reserves the right to change the requirement/specifications (functional or non functional), without any change in the unit price or other terms and conditions.
  - xx. The Bidder shall be responsible for the supply, delivery, and Installation of items at its own risk and cost at the sites to be specified by the Bank.
  - xxi. The bid security of successful bidder will be refunded after successful installation of product. Bid security of unsuccessful bidders will be refunded after the project is awarded to successful bidder.
  - xxii. Payments by the Bank shall be made subject to Withholding Tax and other Government levies, in accordance with law.
  - xxiii. If the Bidder fails to deliver any or all of the items within the stipulated time specified, the Bank may deduct from the Bid Price a sum of money equal to the 0.25% of the Bid Value for every day or part of a day between the scheduled delivery date and the actual delivery date(s).
  - xxiv. It shall be Bidder's responsibility to seek clearances, permissions etc. from the Government / Departments whatsoever with regard to all matters including sales tax, custom duties, surcharge(s) and any other tax, levy etc. as may be applicable for the time being.
  - xxv. Payment will be made by the Bank, as per payment terms agreed after receipt of Bank Guarantee not less than 10% of total contract cost.
  - xxvi. The contact will be awarded to the bidder who has technically qualified and is lowest in the price.

## PROJECT DETAILS

The following requirements are planned to be implemented on a phase-wise basis.

### BUSINESS REQUIREMENTS

The proposed solution shall have the range of GPRS and Ethernet enabled POS terminals (Dialup as optional interface) with mag-stripe reader, chip card reader and biometric scanner. The Terminals should accept various types of cards (mag-stripe, and EMV cards) issued in association with MasterCard, Visa or CUP (China Union Pay) and should comply with their requirements certification/security.

What BOP plans to use BOP POS Network is as follows

### DISBURSEMENTS

- Government salaries, pensions and other benefits transfers (with proof-of-life check capability where applicable)
- Salary transfers for private sector
- Commodity purchases

### COLLECTIONS

- Government collections including various provincial taxes, levies, fees etc.
- Educational institution fees.
- Health Care initiatives
- Private sector collections such as mobile prepaid and postpaid bills collection, airline ticket payments, distributor field collections, etc

### BASIC BANKING SERVICES

- Cash deposit (without requiring use of deposit slips)
- Cash withdrawal (without requiring cheque)
- Fund Transfer
- Utility Bills Payments

### POS ACQUIRING BUSINESS

Ability of the POS terminals to be set at merchant location and is enabled to accept the following local and international cards for

1. MasterCard
2. Visa
3. China UnionPay

BOP has already started Debit card service as a transaction channel for all its customers including branded MasterCard. For deploying of its envisioned transaction banking services automation solution, BOP is looking for end-to-end solution comprising of EFT-POS (Electronic Fund Transfer) Terminal. The terminal will be GPRS and Ethernet-based with capability of biometric authentication that will be deployed in each BOP branch (in first phase). The terminal will have the ability to capture magnetic-stripe, chip and thumb impression transactions with multiple terminal applications encapsulating a robust and comprehensive process flow



Finally, services for deployment and maintenance of POS terminals (scope of such services includes):

- Network Access Controller (NAC)  
NAC should have the ability to interface with BOP's ancillary systems (i.e. Middleware switch and/or with multiple transactions banking services' host based on ISO 8583 (standard for Payment Card Management)).
- Biometric Authentication  
Using biometric thumb impression capability on the POS terminal, the system should be able to initially register thumb impressions for a recipient and subsequently be able to authenticate the pensioner on the basis of such captured thumb impression.  
Apart from Proof-of-life check, such thumb impression-based authentication capability will also be relevant for other customers in general, who given their literacy levels, may find it difficult to operate through cards and signature-based instruments.

Finally, once the above two areas (i.e. implementation and in-house placement) is complete, BOP can start a campaign for merchant placement of its terminals on nationwide basis (especially in Punjab).

## MACRO-LEVEL SCOPE

Vendors will be required to provide the minimum set of services as part of the project.

- Develop and propose an complete POS Business Architecture (in line of BOP POS Business Scope), implementation methodology with delivery timelines
- Provide best of breed backend solution implementation and technology in for POS network Security.
- Implementation/Installation of End to End POS infrastructure relevant to the scope of deployment requested by BOP in this RFP.
- Provide implementation services of the solution (i.e. customization configuration deployment)
- Deliver training services for the Complete End to End POS - NAC for technical staff both on the functional and technical aspects
- Deliver documentation of the solution covering installation, customization and deployment plans.
- Vendor will provide the Payment Security Solution / Application to BOP for transaction security. If this Solution is commercially available in the local / external vendor will be responsible to make sure that application is PA-DSS compliant listed on SSC website
- Provide maintenance services (for 5 years) for the solution including software upgrade and hardware support.
- Supply 500 POS Terminals in initial level.

## SPECIFICATIONS

The below mentioned specifications for different key components of the required POS infrastructure should be proposed along with complete technical specification of each component.

Such components include:

- a. EFT POS Terminals (Biometric enabled)
- b. Network Access Controller (NAC)
- c. Terminal Management System (TMS)
- d. POS Network Security (Encryption)
- e. POS Application and Biometric Server (For Authentication Purposes)

## EVALUATION QUESTIONNAIRE & SPECIFICATIONS SECTION

Evaluation Questionnaire should be thoroughly reviewed, completed (along with completion of comments field, supportive documentation or reference to particular sections) by the bidder as part of their technical proposal. Incomplete information or simple “Yes” to any of the question in Evaluation Questionnaire will not be scored (irrespective of the simplicity of the query).

The scoring criteria for below section is as per below.

1. POS TERMINAL SPECIFICATION	10 Marks
2. NETWORK ACCESS CONTROLLER (NAC) SPECIFICATION	15 Marks
3. TERMINAL MANAGEMENT (TMS) SPECIFICATION	10 Marks
4. POS NETWORK SECURITY SPECIFICATION	20 Marks
5. MISCELLANEOUS QUESTIONS	65 Marks
<b>TOTAL</b>	<b>120 Marks</b>

### 1. POS TERMINAL SPECIFICATION

SNO	COMPONENT	POS TERMINAL SPECIFICATION	RESPONSE (Y or N)	MANDATORY COMMENTS (With Reference Docs)
1	Processor	32 bit ARM 9 or equivalent / higher		
2	Memory	128 MB RAM and 128 MB Flash		
3	Security	2048-bit PKI, 256-bit AES, RSA for compliance with Authentication API specifications		
4	Non-volatile storage	Must be capable of storing at least 1000 transactions		
5	Display	128 x 64 pixel graphical (white backlit) LCD support up to 8 lines x 21 characters. Display screen Min 2.4 inches		
6	Printer	Thermal with graphics capabilities. 40 mm or larger Paper Roll.		
7	Battery life	Minimum 8 hours on continuous operation		
8	Power Adaptor	AC/DC Adaptor with surge protection		
9	Key pad	3 x 4 numeric backlit keypad, plus 4 soft-function keys. Keys to be rated for 0.25 million Key presses.		
10	Peripheral Ports	One Telco, one RS-232 powered port, one USB Host port & one USB client port, one Ethernet port (optional).		
11	Mag-stripe reader	ISO triple-track 1/2/3, bi-directional, highly-coercive		
		1. 3-DES encryption		
		2. TMK/TPK supports with all keys remote download capability		
		3. DUKPT capability		
12	EMV Reader Support	ISO 14443 Type A and B. VISA VSDC 2.8.x		
13	SAM	2 Security Access Modules (SAMs)		
14	GPRS	900 – 1800 Mhz. Dual SIM		
15	Separate or integrated Pin Pad for PIN Entry	Device may have a separate Pin Pad with Shield and long cable to facilitate secure entry of PIN by customer. PCI (Payment Card Industry) PED (Pin Entry Device) certified.		

16	Biometric Scanner	Biometric POS must PCI-PTS 3.1 certified. Fingerprint reader should be PIV-IQS certified. MINEX / compliant, Number of Minutiae generated by extractor to be in conformance to ISO Specification. Inbuilt NFIQ quality software either at device level or extractor level. Minimum 500 DPI with 5% margin on the lower side, 8 bit, 256 levels, ISO 19794-2 for fingerprint minutiae template, and ISO 19794-4 for Fingerprint Image Template Rugged, minimum IP 54 rating preferable, Scratch resistant features.		
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## 2. NETWORK ACCESS CONTROLLER (NAC) SPECIFICATION

SNO	COMPONENT	SPECIFICATIONS	RESPONSE (Y or N)	MANDATORY COMMENTS (With Reference Docs)
1	Network Management Software	Should be capable of comprehensive set of activities including configuration, statistics, alarm and event reporting, remote downloads and chassis management		
2		Automatic backup and recovery features		
3		Extended set of tracing and diagnostic routines		
4		Immediately receive alerts through Email and SMS		
5		Capable for configuring required Nodes		
6		Concurrent client connections Unlimited		
7		Number of Users Unlimited		
8	Network Access Controllers	6 slot chassis featuring 4 embedded GigE Ethernet ports, capable for mix-and-match dial and Ethernet transactions within a single, common platform.		
9		Should have built-in TCP Uplink, TCP Downlink, WAN and Monitoring capabilities		
10		Processor Quad Core 2.X GHz, 6GB DRAM		
11		Complete remote chassis management		
12		Powerful transaction routing and load balancing functions		
13		Protocol conversion and hot-swappable port processors		
14		Dual AC or DC power supplies ensure critical services are always sustained		
15		Supports all modem modes up to V.92, enabling high speed transaction processing, software downloads and batch uploads		
16		Can directly connect to Internet and provide firewall function to protect corporate LAN		

### 3. TERMINAL MANAGEMENT (TMS) SPECIFICATION

SNO	COMPONENT	SPECIFICATIONS	RESPONSE (Y or N)	MANDATORY COMMENTS (With Reference Docs)
1	Download Management	Enables download of applications to terminals. Applications are downloaded to terminals during deployment or when existing applications on terminals require an upgrade.		
2	Message Management	Enables transfer of messages between TMS and terminals. Messages can be pre-defined or custom text, or graphics messages either to a single terminal or to a range of terminals.		
3	Information Collection	Enables to collect information on the critical parameters of a terminal. For example, the number of card swipes, and the free memory on a terminal. The information thus collected can be used to identify the potential problems and rectify it in advance.		
4	Remote Diagnostics	Enables identification of problems with terminals that are located remotely, and also check for the correctness of application parameter values.		
5	Download Automation	Enables configuration of automated downloads. The application download is automated for all updates.		

### 4. POS Network Security Specification

SNO	COMPONENT	SPECIFICATIONS	RESPONSE (Y or N)	MANDATORY COMMENTS (With Reference Docs)
1	Plug-n-Play	Implementing solution should be largely plug-n-play, requiring no host changes.		
2	3-in-1 functionality	Should ideally also be able to perform in-coming terminal calls handling (CNAC functionality) and switching them to the appropriate hosts (SNAC functionality)		
3	SFE & FME support	Supports both SFE and FME* messaging schemes.		

4	Multiple encryption algorithms	Supports all MDER sanctioned encryption algorithms - TEA[1], DES, 3DES, AES.		
5	Multiple MAC algorithm	Supports X9.19, 3DES+RMAC, AES+SHA-1		
6	Multiple Key Usage methods	Supports unique-key-per-terminal, unique-key-per-terminal-per-transaction		
7	Multiple Hosts	Supports switching and encryption for multiple hosts		
8	Multiple Channels	Supports channels including GPRS and Ethernet		
9	Bi-directional protection	Supports both upstream and downstream encryption & MACing		
10	High-availability & scalability	Provides high-availability and horizontal scalability in clustered mode.		
11	Mixed Mode	Supports the various combinations of the above options in the same environment.		
12	Remote Terminal Key Injection	Provides mechanism for both securely injecting keys into terminals on the field or remotely, thus providing considerable cost savings in deploying and managing these terminals and terminal keys.		
13	Extensibility	Can be used for other applications		
14	Terminal SDK	Should come with a terminal SDK, i.e. specifications document, code, library & test plan. This SDK covers functionality such as data encryption, secure key storage and remote key injection.		
15	Terminal Secure Key Storage	Should come with a special mechanism for securing keys in software within terminals. This mechanism protects against such key attacks such as terminal-to-terminal image copy.		

5. MISCELLANEOUS QUESTIONS

SNO	COMPONENT	GENERAL EVALUATION QUESTIONS	RESPONSE (Y or N)	MANDATORY COMMENTS (With Reference Docs)
1	General Area	Is your company a partnership firm or a limited company having existence in Pakistan? (The necessary certificates viz., Certificate of Incorporation in case of Limited company, Registration Certificate along with the latest partnership deed in case of partnership firm shall be submitted with the offer).		
2		Is your company in existence for five years as on 31-12-2012?		
3		Has your company or partner company ever been blacklisted or barred by Government or any regulatory body in Pakistan or internationally? (Any consortium arrangement must be supported by a letter from the authorized signatory from the lead firm which introduces consortium partners and their respective roles in the project.)		
4		Is your product a well known USA or European Brand (EMV, PCI IOS Certified)?		
5		How many POS Terminals have been sold by your Company of the specified brand in last three years?		
		a) Worldwide		
		b) In Pakistan		
6		How many POS merchant acquiring banks are currently using your proposed solution? (if yes, please provide details)		
7		Is POS merchant Acquiring Network (provided by you) Certified to acquire the Following (please tick the relevant/applicable option(s))		
		a) VISA Cards		
		b) MasterCard		
		c) UnionPay Cards		
8	Is your POS Network Certified to cater Loyalty Services (if yes, please mention details)			
9	Do you have any experience in certification for MTIP & ADVT ? (if yes, please attach evidence)			
10	How many POS Terminals of Specified brand and specifications are installed last year as per below?			
	a) Worldwide			
	b) In Pakistan			
11	Has your company's POS terminals ever been replaced in Pakistan			
12	Have you replaced any competing bank with your POS in Pakistan			
13	Financial Criteria	Does your company have a minimum average annual Net Sales Turnover of USD 1 Million (One Million Dollars) during last three financial years viz. 2010- 11, 2011-12 and 2012-13?		

14		Does your company have positive net worth for the last 3 financial years viz. 2010- 11, 2011-12 and 2012-13?		
15	Technical Area	The Bidder should have understood the concepts of BOP POS deployment, processing, operations, preferably participating in implementing similar projects in any of the Banks/Financial Institutions in Pakistan or internationally, in-line with VISA/MasterCard Guidelines? (Details of such understandings and implementations need to be furnished along with the proposal)		
16		Has your company installed over 10,000 Electronic EMV Point of Sale (POS) terminals in Pakistan and internationally.		
17		Does your company have local presence and development, professional services, implementation team in Pakistan? (The team size and set-up details are to be provided).		
18		Does your company have prior experience in advising on the risk arising from card transactions for banks in Pakistan or have the capabilities to suggest and provide add-on requirements related to Risk Management Requirements for monitoring of the Transactions (MIS, Fraud Alert Reports, Velocity Reports and Add-on Tools) etc? (The Bidder system should be able to generate exception report, take appropriate action with Bank's approval and do timely escalations to the Bank on exceptions).		
19		Has your solution been implementation with add-on Value Added Services (Mobile Top-up, Utility Bills Payment) in Pakistan or Internationally?		
20		Has your solution be certified with VISA/MasterCard switches with necessary application software in place?		
21		Experience of bidder in providing integrated Merchant Acquiring Solutions to banks in Pakistan? (Please mention the Number of Years and Banks)		
22		Does your company have after sales service and terminal repair unit with local offices and repair numbers?		
23		Is your Biometric POS terminal (that you have proposed PCOI/PTS 3.1 Certified?		
24		Does your POS Terminal have built-in Chip/mag-stripe card readers?		
25		Is the Biometric fingerprint reader PIV-IQS certified?		
26		Has your company successfully completed at-least 3-5 local/international projects based on Biometric Authentication?		
27		Is your POS (Point of Sale) system compliant with Visa's or MasterCard's Payment Application Best Practices (PABP) or Payment Application Data Security Standards (PA-DSS)?		

28		Will a Hardware-based firewall be supplied?		
29		Is an anti-virus and/or anti-malware application installed on the system?		
30		Will your company be responsible for updates to the POS (Point of Sale)?		
31		Does your system monitor security and other system logs on a regular basis for usual or malicious activity		
32		Are system account usernames and passwords unique to the business, sufficiently complex and rotated after every 90 days		
33		In case of an upgrade to the version of POS (Point of Sale) application, the solution can be upgraded on other POS (Point of Sale) on switch advice?		
34		In case of security breach, evidence is preserved in its current form?		
35		Does your system support different communication channels (i.e. Dialup (PSTN) POS-GPRS POS DSL, Leased lines, ISDN, CDMA etc. )?		
36		Does you encryption support 3DES /AES?		
37		Is your encryption key length minimum 128 or more?		
38		Does your solution have HSM availability and remote key injection, multiple key usage support?		
39		Is each POS Terminal injected with a unique key to encrypt debit card PIN?		
40		Does your solution have per transaction/ terminal key management and MACing support?		
41		Is your solution PCI-DSS compliant?		
42		Does your solution support EMV and magstripe?		
43		Does your POS network security (encryption) solution supports Minimum Data Encryption Requirements (MDER) Standard?		
44		Do you have an in-house capability to program POS Terminals and integrate with Switch?		
45		Is the card data residing on your terminals?		
46		If yes, is the card data encrypted?		
47		Is the card data encrypted during transmission from POS to financial switch?		
48		Do you maintain both primary and secondary NAC numbers?		
49		Will data be securely transmitted if the merchant uses his own broadband connectivity for Ethernet and own SIM for GPRS?		



6. FINANCIAL PROPOSAL TEMPLATE

PRICE SCHEDULE FORMAT													
ACQUISITION COST		TOTAL ACQUISITION COST			ANNUAL SUPPORT COST INCLUSIVE OF TAX			TOTAL SUPPORT COST					
SNO	ITEM	QUANTITY	UNIT PRICE (PKR)	TAX (PKR)	UNIT PRICE (WITH TAX)	TOTAL PRICE (WITH TAX)	TOTAL PRICE (WITH TAX) IN PKR	FIRST YEAR	SECOND YEAR	THIRD YEAR	FOURTH YEAR	FIFTH YEAR	TOTAL
<b>HARDWARE</b>													
1	POS TERMINALS	500	A	B	A + B - C	C x N							
2	NAC (activation enabled)	1											
3													
<b>SOFTWARE</b>													
<b>POSTERMINAL SOFTWARE LICENSE</b>													
1	POSTERMINAL SOFTWARE LICENSE												
2	BIO-METRIC HOST/SERVER SOFTWARE LICENSE												
3	TERMINAL/MANAGEMENT SYSTEM LICENSE	1											
4	POSTERMINAL SOFTWARE CERTIFICATION (M-TP, ADVT)												
5													
<b>PROFESSIONAL SERVICES</b>													
<b>INTEGRATION</b>													
1	INTEGRATION												
<b>IMPLEMENTATION</b>													
2	IMPLEMENTATION												
<b>TRAINING</b>													
3	TRAINING												
4													
<b>TOTAL</b>													
TOTAL COST OF OWNERSHIP (in PKR)													

This should be the "Grand Total" of last column.

## ESSENTIAL CRITERIA

- As per Business Requirement of Cash Disbursement, Collection and Basic Banking services referred in earlier section titled "Project Details". The vendor should propose a comprehensive and robust solution for the bank to cater its business requirements
- The respondent should have done deployments of the proposed EFT terminal brand with a minimum of three commercial banks in Pakistan or Internationally (please file letter of certificates)
- The respondent should have done EFT terminal application development on the proposed EFT terminal brand for a minimum of three commercial banks in Pakistan or Internationally (please file letter of certificates)
- The respondent should have a minimum of five years of experience for EFT terminal application development & support and hardware support capability
- The respondent should have done NAC and TMS implementations with a minimum of three commercial banks in Pakistan or Internationally.
- Implementation with Biometric Authentication will be an added advantage.

## TIMELINES

- The timelines of implementation of the project shall be submitted along with the technical proposal.

STAGE	ACTIVITY	WEEKS REQUIRED FOR THE ACTIVITY	PROJECT DURATION IN WEEKS	TIME PERIOD FOR COMPLETION
1	Submission of detailed project plan	2 Weeks	2 Weeks	2 Weeks of Issuing the Purchase Order
2	Start of UAT	1 Week	3 Weeks	6 Weeks of Issuing the Purchase Order
3	Completion of UAT and submission of Test Reports	4 Weeks	7 Weeks	7 Weeks of Issuing the Purchase Order
4	Training to the Bank Team	1 Week	8 Weeks	8 Weeks of Issuing the Purchase Order

- The project implementation should be completed within 8 to 10 weeks from the date of issuing the Purchase Order to the finalized Bidder.

## VENDOR DETAILS TO INCLUDE

### CLIENT BASE

- Total number of completed (live) installations in Banking and Finance Segment in Pakistan?
- Total number of completed installations with the current version in Banking and Finance Segment?
- Current number of installations in progress?
- Average number of users per installation?
- How many new customers signed up during the previous year?
- Any customer shifted from your solution to another solution in the last three years?

## COMPANY INFORMATION, SUPPORT AND DEVELOPMENT

- Total number of employees?
- Total number of office locations (domestic to corporate office)?
- Total number of office location (world-wide)?
- Year company was established
- What is the ratio of technical support staff to the number of installations?
- What percentage of the vendor's total staff is engaged in technical support?
- What percentage of the user base has full maintenance contracts?
- How many technical staff is engaged in development of the system?
- What percentage of the vendor's total staff is engaged in technical development?
- What type of user interface is available on the system?
- Project plan/ methodology.
- Overall timelines suggested.
- Resource availability for project implementation and ongoing support.
- Support Centers (preferably, Karachi based).
- Implementation & post production support by vendor or 3rd party.

## LOCATION / PRESENCE

- The product should be a well known international Brand, widely deployed internationally and have certification of EMV, PCI ISO.
- What is the BCP setup of the vendor/supplier?

## REVENUE

- Please provide the most recent fiscal year revenues.
- Previous year revenues.
- One year growth percentage.
- Five year growth percentage.
- Amount allocated to R&D most recent fiscal year.
- Amount allocated to R&D previous fiscal year.

## PROPOSED ARCHITECTURE AND BRAND OF SOLUTIONS

- Complete solution Architecture in regards to BOP requirements
- Technical specifications of Software (NAC, POS Application etc.)
- Proposed brand of POS Terminals, their technical specifications and compatibility (in line of BOP Requirements)
- Supportive Hardware Brands and Technical Specifications
- Completed Evaluation Questionnaire (along with comments field, supportive documents or reference to particular sections)
- Functional overview of the associated solution.

## WEIGHTAGE

Following is the weightage that will be given to the points in this section. The passing criteria is 90% or over.

CRITERIA	WEIGHTAGE
Functional, Technical Specifications Criteria & Quoted Price	75%
Client Base, Relevant Previous Experience & Local Presence	15%
Company Information/Location Financial Strength & Revenue	10%

## PROJECT PAYMENT TERMS

For Software Applications

SNO	MILESTONES	PAYMENT RELEASE
1	Purchase Order Issuance:	NO ADVANCE PAYMENT
2	FSD (Functional Specifications Document) Signoff	20%
3	SIT (Site Integration Testing) Completion Signoff	25%
4	UAT (User Acceptance Testing) Signoff	25%
5	GO LIVE (1 Month Stability Period)	30%

For Hardware Equipment

SNO	MILESTONES	PAYMENT RELEASE
1	Purchase Order Issuance:	NO ADVANCE PAYMENT
2	Delivery & Installation of Hardware Equipment	100%

## IMPLEMENTATION REQUIREMENTS:

### OPERATIONAL PROCEDURES

- The Vendor shall prepare effective backup and recovery plans to support and maintain a stable and reliable operating environment in automated mode. The plan should state:
    - A. - Backup frequency of database and/or files
    - B. - Recycle procedure of the backup; and
    - C. - Recovery procedure in the event of system failure
    - D. - Daily/weekly/monthly/yearly preventive maintenance procedure and activities
    - E. - Housekeeping for growing logs
    - F. - Up to date patch are installed
    - G. - All relevant log files and traces
    - H. - User access control system
    - I. - Configuration properties
  - The system shall provide web-based Administration Tools requirements to manage:-
    - A. Authentication with username, password and roles
    - B. Manage users ID and groups with different roles, example read-only, edit-mode, limited viewing, etc.
    - C. Troubleshooting
    - D. Retrieve transaction data
    - E. Review reports
    - F. Customer Care Access
  - Verify and compile the license expiry date.
  - All test and pre-production data/scripts/programs should be removed from the production servers.
  - Vendor to ensure proactive bug fixing, delivery of maintenance release and software update.
  - Weekly and Monthly support meeting to review on the performance. Tracking mechanism to focus on critical permanent fix and repetitive faults.
  - The vendor shall provide Monitoring Tools for application, DB and HW faults and performance
  - The system shall support the capability to extract reporting/statistical raw data in a text file with format defined by the bank to be exported to a third party data warehousing/reporting tool (e.g. crystal report).
  - Provide periodic Reporting based on the reports stated in SLA. Examples include but not limited to:
    - A. Service Availability
    - B. Response Time
    - C. Service success rate
    - D. Monthly Vendor Call out (e.g. cases brought forward from previous month / to next month)
    - E. Service Performance Summary (% of target achieved/failed)
  - The system shall support reporting & analysis based on real time data
-

## INFRASTRUCTURE

- The system shall support servers, workstation, network switches, load balancers and system components within industry standard.
- The vendor shall provide clear labeling of all racks, servers, workstations, subsystems, cables at both ends, connectors and ports

## SERVER AND STORAGE

- The System proposal shall provide the sizing calculation of the servers.
- The system shall provide hardening of operating system and software, example disabling all processes, services and ports that are not in used for security reasons.

## INTEGRATION RESPONSIBILITIES

- The Vendor shall describe all dependencies to bank, including all equipment, tools and support for installation, integration, test and acceptance of the System.
- The Vendor shall integrate with the following systems.
  - A. Bank Core Banking System
  - B. Integration with other supporting system e.g. SMS/UBPS gateway, Switch etc
- For multiple connections, the system must support Multiple IPs for 1 Large Account.
- The system must be able to originate and terminate using the same connection.
- The system must have detail logs for each transaction to and from any interface. With exception for sensitive information such as pin
- The system must be able to show the connection utilization (in message per second).
- The client or application must use unique transaction ID for all transaction sending, including all segments of long message with an option of sequential or non-sequential transaction id (configurable)
- The System shall provide network connectivity to all the systems within the proposed platform.
- The system shall support GPRS & Ethernet interface.
- System and network should be properly segmented: Public access (DMZ), front-end system, and back-end system whichever deem fit.
- The system shall be multi-tiered if deem necessary to improve security, performance, scalability and availability.
- The system network shall be fully redundant and supports minimum 2 network ports per virtual or physical server instance.
- The System shall generate CSV or other standard EDI output format for FTP file transfers

## PROJECT IMPLEMENTATION PLAN

- The Vendor shall propose a project implementation plan, including but not limited to the items below, and with all dependencies indicated, as well as all participation from the bank has indicated.

- The implementation plan should be detail and in Gantt-chart form reflecting the chronological sequence of activities required for systems implementation commencing from the date of contract through systems acceptance. Estimated start and completion date for each activity shall be included.
- Vendor shall submit their approach and methodology for the system implementation.
- The following activities, among others, shall be covered in the project implementation plan
  - A. Project awarded
  - B. Project kick-off
  - C. Site requirements and preparation
  - D. User Requirement study and sign off
  - E. Specification of interfaces, Design
  - F. Hardware/software acquisition and installation
  - G. Implementation/development
  - H. Integration
  - I. User training
  - J. Documentation, User guides, including approval time
  - K. Test phases – User Acceptance test (including load performance test and necessary simulation tools)
  - L. Stability periods / pilot run/ soft launch
  - M. Cut over to production , rollout and migration
  - N. Contractual Date of Delivery
  - O. Warranty Periods – post implementation support and review
  - P. Regular status meetings
- For any major event on the project implementation plan, the following shall be described:
  - A. Site
  - B. Process
  - C. Prerequisite
  - D. Bank involvement (# of participants, competency)
  - E. Vendor involvement
  - F. Deliverable
- For any major event on the project implementation plan, possible impact to other systems and services shall be described.
- Project staffing organization chart of the Vendor’s implementation team, explaining the roles and responsibilities of each resource
- The Vendor(s) must appoint a responsible project manager at its own cost for the project with the authority to make necessary decisions for the progress of the project;

## TRAINING

- For each of the training courses offered, the Vendor shall state
  - A. a description of key modules
  - B. target audience
  - C. experience level, prerequisites
  - D. proposed timing
  - E. practical arrangements (duration, preferred location, etc)
  - F. the max size of class
  - G. on-site or off-site training
- The vendor shall provide comprehensive classroom and hands-on training to the bank.
- The vendor shall provide all materials, equipment, and facilities needed for all training sessions.
- Training costs shall be addressed in the Commercial Proposal.
  - A. Mandatory training
  - B. O&M training for a minimum of 8 persons
  - C. Troubleshooting training for level 1 & 2, including all relevant system administrations
- Planning department training on system capacity monitoring, capacity planning and system sizing
- Developers training on development, implementation and maintenance
- End User Training
- To provide slides and training materials for merchants, agents, dealers/ distributors' trainers purposes
- The CS training module shall include training in using the System and CS Care GUI training
- All training documentation shall be made available for the bank in soft copy



## GLOSSARY AND ABBREVIATIONS

1. GST (General Sales Tax)
2. DR (Disaster Recovery)
3. POS (Point of Sale)
4. ATM (Automated Teller Machine)
5. GPRS (General Packet Radio Service)
6. ISO (International Standard Organization)
7. BOP (The Bank of Punjab)
8. EFT (Electronic Funds Transfer)
9. CUP (China Union Pay)
10. NAC (Network Access Controller)
11. PA-DSS (Payment Application Data Security Standards)
12. SSC (Standard System Center)
13. R&D (Research and Development)
14. EMV (Euro pay, MasterCard, Visa)
15. PCI (Payment Card Industry)
16. DB (Data Base)
17. SLA (Service Level Agreements)
18. SMS (Short Messaging Service)
19. UBPS (Utility Bill Payment Systems)
20. CSV (Comma Separated Value)
21. EDI (Electronic Data Interchange)
22. FTP (File Transfer Protocol)
23. GUI (Graphic User Interface)
24. CS (Customer Service)
25. MINEX (Minutiae Interoperability Exchange Test)

26. LCD (Liquid Crystal Display)
27. ARM: ARM is a family of instruction set architectures for computer processors based on a reduced instruction set computing (RISC) architecture developed by British company ARM Holdings
28. API: Application Programming Interface
29. RAM: Random-access Memory
30. TMK: Terminal Master Key
31. TPK: Terminal PIN Key
32. DUKPT: Deriver User Key per Transaction
33. VSDC: Visa Smart Debit Credit Card
34. PED: Pin Entry Device
35. PCI/PTS: Payment Card Industry / Pin Transaction Security
36. PIV-IQS: Personal Identity Verification Image Quality Standard
37. ISO: International Organization for Standardization
38. NFIQ: NIST Fingerprint Image Quality
39. DPI: Dots per Inch
40. IOS: Internetwork Operating System
41. PSTN: Public Switched Telephone Network
42. DSL: Digital Subscriber Line
43. ISDN: Integrated Service Digital Network
44. CDMA: Code Division Multiple Access
45. 3DES: Triple Data Encryption Standard
46. AES: Advance Encryption Standard