Bidding Document

PROVISION, INSTALLATION, COMMISIONING, DEPLOYMENT OF

STORAGE AREA NETWORK (SAN)

(TURN KEY SOLUTION)

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Last Date for Submission: **9th April, 2018 at 10:30 A.M.**
Tender Opening Date: **9th April, 2018 at 11:00 A.M.**
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1. Description of Work

1.1 Introduction

The Bank of Khyber (BOK) invites sealed proposals i.e. Technical and Financial on **Single Stage Two Envelope Procedure** for the provision of storage area network (SAN) device which will provide shared disk to deliver centralized storage functionality that enhances disk operations, simplifies management and reduces costs.

Keeping in view the existing limitations and business expansion of the organization the BOK has initiated a project to enhance its IT Infrastructure. Different applications are running in BOK to serve the customers. Currently, there is no centralized storage installed at the BOK and the applications are running in distributed environment on standalone servers.

For operating all the software applications from central location, SAN is the key requirement to consolidate the distributed setup into central location.

Bidders are required to submit two separate sealed proposals i.e. Technical and Financial to the office of the **Head Procurement Division, The Bank of Khyber** on or before **Monday, 9thApril, 2018 at 10:30 AM**. Bid Opening Date is **Monday, 9th April, 2018 and Time is 11:00 AM** at The Bank of Khyber, Head Office.

1.2 Scope of Work / Objective

Bank of Khyber (BOK) is seeking a technology vendor from which Storage Area Network (SAN) solution is purchased to enhance its existing technology. Vendor is required to depute Certified Staff that will install their proposed solution into the BOK Data Center environment and will allocate the SAN disk with both the stand alone and blade chassis servers, taking snapshots, restoring snapshots, backup the data, solution should have the capability to support data replication from one site to another and other necessary arrangements related to SAN Storage identified by BOK IT staff including virtualizing the existing the applications etc.

The technical specifications of the required equipment are as follows: -

SAN STORAGE	
A).	**High Availability**
i.	Must be designed to deliver proven minimum 99.999%
ii.	Proposed storage system must contain dual Active-Active controllers, each controller must contains its own processor, dual in-line cache memory modules (DIMMs) backed by on board cache flash memory (CFM) for data availability in case of failure.
iii.	In case of one controller failure, all data drives remain available to data hosts using a redundant data path through the other controller
B).	**Functionality**
i.	Must be truly block Storage providing native Block storage capabilities with support for FC and iSCSI
ii.	The solution must support all known OS platform (like Microsoft Windows Server 2003, 2008, 2012, 2016, Linux, SUN Solaris, IBM AIX, etc.) versions with 64bit architecture.
iii.	Must have thin provisioning to allow physical allocation of just the storage that is needed within a defined LUN with Page Reclaim functionality.
C).	**Scalability**
i.	Must be able to scale up to Petabyte usable capacity in a single dual-controller box
ii.	The solution must support 3rd generation SAS 12Gb/s drive connectivity
iii.	Must be able to provide additional connectivity to meet existing or future needs for front end port counts and future technologies through hot-pluggable IO modules
iv.	Must support upgrade of hardware resources as capacity of the system grows

v.	Should be upgradeable Data-in-Place to next model with no forklift upgrades and also with no downtime	
vi.	Must allow capacity upgrade with all necessary software licenses at the time of upgrade	
vii.	Must provide cache upgrade without change of controller, downtime & performance degradation	
D).	**Performance**	
i.	Must be based on Dual Active/Active Storage Controllers architecture	
ii.	Must implement a full 64-bit Operating System using advanced multi-core Intel and multi-lane SAS-3 12Gb/s Backend Bus Technology	
iii.	Must provide native replication capability that should be performed by both storage controllers for better replication performance. Must support all types of Replication modes without any additional licensing (sync/Async)	
E).	**Data Integrity**	
i.	The system must ensure and maintained data integrity at all times	
ii.	The platform should implement a no single point of failure (SPOF) architecture model	
iii.	Must include cache de-stage, dedicated cache mirroring channels, proactive sparing and automatic high-speed failover to ensure zero data loss	
iv.	Array must have the optimal quantity of global hot spare disks as recommended by the manufacturer (in addition to the usable capacity)	
F).	**Flexibility**	
i.	The system should be capable of supporting the following drives: a. All type and size of SSDs / Flash Drives b. All type and size of SAS c. All type and size of NL-SAS	
ii.	The solution should provide flexible RAID configuration options like RAID 0/1, 5, 6 or equivalent	
iii.	Must able to create 256TB single LUN	
G).	**Security**	
i.	Must provide multiple levels of access control including role-based security and auditing capability.	
ii.	Must support Data at Rest Encryption at Storage Controller Level (Hardware Based)	
H).	**Management**	
i.	Must provide active system management and user directed control of system resources	
ii.	Provide management control of SNMP, email, and phone home notification.	
iii.	Management software must have graphical user interface (GUI) based configuration management application, incorporating easy-to-use management interfaces, business application defined recommended practices and open standard APIs	
I).	**In built Native Replication and Snapshot Support**	
i.	Must automates the recovery process and enables normal business operations to resume in minutes rather than hours or days following an outage at the primary site	
ii.	Must support simultaneous local and remote replication for the same volume managed from the same interface	
iii.	Must support replication providing granular recovery to the I/O level for Block storage	
iv	Must able to Replicate with any Model of proposed Storage (Higher or Lower) without adding any Hardware	
v.	Must support bi-directional replication as well as many-to-one and one-to-many replication	
vi.	Must support Synchronous Replication over IP link	
J)	**Quality of Service**	
i.	Must able to set Host I/O Priority on Storage	
ii.	Must have native storage resource partition Capabilities including Virtual Storage Partitions within a single Physical Storage and Cache Partitioning for Data QoS	
iii.	Must support Native OS Multi Patching	
iv.	Must Support native External Storage Virtualization without any additional hardware	
v.	Must provide complete non-disruptive microcode upgrades without impact to application service levels	
K).	**Warranty and Maintenance Support**	
i	Proposed solution is to include Five (5) years 24x7x365 Remote Principle & local Partner support for hardware service / replacement part, software and/or licensed services.	
ii.	Availability of spare parts in Pakistan provided by OEM	
L).	**Required Capacity**	
i.	At Least 100 TB of usable without compression.	
ii.	Processor (Intel 4th Generation with minimum 8 Cores per Controller)	

iii.	Required atleast 64 GB DRAM Cache per controller. Total cache 128 GB
iv.	Three (3) Tier Solution is required with SSDs, SAS and NL-SAS
v.	SSD should be atleast 20% of proposed solution
vi.	SAS should be maximum 60% of proposed solution
vii.	NL-SAS should be maximum 20% of the proposed solution
viii.	Should have at least 1 Hot spare disks in all categories and SAN to be configured with hot spare drives in a quantity and manner that follow the manufacturers' best practices.
ix.	Continuous data protection must be ensured by taking copies of changed data and this should be done using a minimal amount of storage capacity for each point-in-time image.
x.	Should provide at least 2 x 16 Gbps FC ports per controller (to maintain redundancy at all levels; no. of integrated ports and or external cards installed with the controller)
xi.	Must provide at least 2 x 10 Gbps BaseT RJ45/Optical iSCSI ports (to maintain redundancy) and Each controller should have separate management network connections
xii.	FC to IP Routers are required if Native IP based replication is not supported
xiii.	Storage Management Software with GUI (Auto tiering software needs to be part of storage management without extra cost)
xiv.	IOPS (minimum 50000) (fifty thousand)
M)	**Storage Rack**
i	Should include company standard 42U storage rack with all accessories for the proposed solution.

FC Switches for SAN - Servers connectivity (Production Site)

A).	**Redundancy**
i.	Provide two (2) x 16 GB external FC switches.
B).	**Enabled Ports**
i.	Each Switch must have 24 x 16Gbps FC ports enabled with all requisite licenses and SFPs
ii	Each Switch should have separate Ethernet port(s) for management
C).	**Supported Port Speeds**
i.	Auto-sensing of 2, 4 ,8 and 16 Gbps port speeds
D).	**Software features**
i.	Frame-based Trunking
ii.	Advanced Performance Monitoring
iii.	Adaptive Networking
iv.	Proactive Monitoring and Alerting
v.	Bottleneck Detection
vi.	Advanced Zoning
E).	**Diagnostic mode**
i.	Required for low-level diagnostics of SFP, cable & long distance problems.
F).	**Forward Error Correction (FEC)**
i.	Required
G).	**Power Supply**
i.	Dual, hot-swappable redundant power supplies with integrated system cooling fans
H).	**Self-Alert generation**
i.	Each switch must have Self Alert capability (system should generate an alert to the Principle support to log a case in case of any critical error)
I).	**Support and Maintenance**
i	Proposed solution is to include Five (5) years 24x7x365 high track Principle & local support for hardware service / replacement part, software and/or licensed services
J).	**Required SAN Switches Cables**
i.	24 x 5m LC-LC cables
ii.	24 x 10m LC-LC cables
NOTE:	
A).	**Training**
i.	3 x OEM Training for storage administrator from relevant training center
B).	**Deployment**
i.	All vendors are required to deploy the proposed solution on site in-line with the deployment /implementation plan provided with Technical Proposal
ii.	Proposed solution must be complete in all aspect of installation/deployment.

2. Proposal Response Format

The vendor is required to submit two separate sealed proposals i.e. Technical and Financial. The proposals must be submitted in the following format:

2.1 Format of Technical Proposal

The technical proposal should be concisely presented and structured in the form of chapters to include, but not necessarily be limited to, the following information. Support material should not be part of the main proposal but should be placed at Appendixes.

2.2 General

The responding organization (Bidder) should provide the following:-

1. Name of the participating organization or participating organizations (if more than one) in the responding consortium, including their scope of involvement.
2. Number of years of incorporation of the participating organization or participating organizations (if more than one).

2.3 Mandatory Requirements

1. Bidder is required to submit its Technical Proposal in accordance with the **Mandatory Requirements** as mentioned below. Failing to which the proposal will not be considered.

#	Mandatory Requirements	Proof to be submitted for fulfilling Eligibility Criteria
1	The bidder should be Tier-1 Partner of the Manufacturer at-least since last two years and must provide its certificate	Manufacture's Registration / Incorporation Tier-1 Certificate should be provided of the last two years
2	The bidder should be an Active Tax Payer and must provide Sales Tax certificate	KPRA (Khyber Pakhtunkhwa Revenue Authority) Registration Certificate should be provided
3	The bidder should have at-least 5 years' experience for the supply, deployment of similar equipment and must be registered with FBR	The bidder should provide its **FBR** registration certificate (NTN)
4	The bidder should not have been blacklisted by any of the Provincial / Federal Government or organizations of the State / Federal Government in Pakistan	**Undertaking** on stamp papers should be submitted by the bidder
5	The bidder must submit **Annual Audited Report** for the last 03 Financial years	Annual Audit Report for the last 3 years should be provided.
6	All Vendors must provide at least 4 deployments for core application (Banking & financial Institution) for the similar product with contact information and valid proof.	Valid documentary evidence must be submitted (Preference will be given to Work Order Issued by the Financial Institutions)
7	The bidder must have legal presence in Pakistan. Must have local **Office in Peshawar**. And should submit list of Offices across Pakistan.	Valid documentary evidence must be submitted
8	The firm must submit **List of Certified Technical Staff** related to the subject Tender	List of HR to be provided.
9	The valid and current OEM Authorization Letter or Form required to be submitted with the solution	OEM Authorization and presence of Principal Resource in Pakistan
10	List of Import Documents of the similar equipment	Valid documentary evidence should be provided of the last 2 years.

2.4 <u>Financial Capabilities</u>

The bidder shall describe the financial position of its organization. Income Statement or Annual Report should be included in the detailed Technical proposal. The National Tax Numbers and Sales Tax Registration Numbers of the company and/or partners should also be indicated (Photo copies of concerned documents should be provided).

2.5 <u>Project Implementation/Management Plan</u>

The bidder shall provide a detailed implementation plan and project management plan. Responding Organization should provide the timeline. Responding Organization should cover tasks assigned to the employees and resource allocation of responding organization during the course of the project. This should not be in generic terms but should be specific to the project. Project plans in tabular form, mentioning names of tasks, sub tasks, start date, finish date, resources and milestones will also be appreciated. In the training category, bidder is required to provide detailed training schedules along with the names of resources. This Directorate may ask the Responding Organization to provide the presentation on the proposed solution.

2.6 <u>Warranty Period</u>

The bidder shall give (5) Five years comprehensive after completion warranty for Hardware specific under company strategy , certifying that the goods/services supplied confirm exactly to the specifications laid down in the contract and are secured and that in the event any material being found defective or not conforming to specifications/particulars governing the supply for the warranty period from the date of supply the supplier will be held responsible for all losses and that the unacceptable items shall be substituted with the acceptable items at bidder expense and cost. An amount equivalent to 10 % of total payment (inclusive of 2% earnest money) shall be deducted as security/warranty for delivery, inspection, acceptance, installation and operation.

2.7 <u>Training Capabilities</u>

Bidder should indicate its training capabilities to provide relevant OEM training to 03 Storage Administrator from the relevant training center. Bidder should also provide a detailed training schedule and necessary equipment will be arranged by the vendor. Preference will be given to the bidders with certified trainers.

2.8 Technical Evaluation Criteria is as follows: -

#	Attribute	Maximum Score	Score Distribution	Requirements
1	Number of years since the Company has been established based upon NTN	10	1 Mark for Each Year (Max 10)	Based upon provided Company NTN Less than 5 Years will be disqualified
2	Atleast 04 Similar Product Deployments for Core Application (Banking & Financial Institution of Pakistan) for the similar product and/or solution with valid proof.	10	10	More than 4 deployments for core application
			5	4 deployments for core application (Banking & financial Institution of Pakistan).
			Disqualify	Less than 4 will be disqualified
3	No. of Technical Certified Staff	10	10	More than 03 Certified Staff for Similar product
			5	Less than or equal to 03 Certified Staff for Similar Product
4	Solution should be upgradeable Data-in-Place to more powerful models with no forklift upgrades and also with no downtime	5	5	Should be upgradable without Forklift Upgrade and with no downtime
			Disqualify	Non – Compliance will disqualify
5	The platform should implement a no single point of failure (SPOF) architecture model	5	5	No Single Point of Failure
			Disqualify	Non – Compliance will disqualify
6	Must provide cache upgrade without change of controller, downtime & performance degradation	5	5	Cache upgrade without change of controller, downtime and performance degradation
			Disqualify	Non – Compliance will disqualify
4	Number of IOPS	10	10	More than 70,000 IOPS
			5	Between 50,000 upto 70,000 IOPS
			Disqualify	Less than 50,000 IOPS will disqualify
5	Provide at-least two (2)x16GB external FC switches with enough ports to connect up-to 12 hosts in redundancy initially and must have future expansion support within the same hardware.	10	10	More than 24 Enabled / Active Ports
			5	Minimum 24 Enabled / Active Ports
6	At Least 100 TB of usable (Tebibytes/Binary) without compression.	5	5	100 TB or more
			Disqualify	Less than 100 TB usable will Disqualify
7	SSD should be atleast 20% of proposed solution	5	5	More than or equal to 20% SSD of proposed solution
			Disqualify	Less than 20% SSD will be disqualified
8	SAS should be 60% of proposed solution and	5	5	Less than or equal to 60% SAS of proposed solution
			Disqualify	More than 60% SAS will be Disqualified
9	NL-SAS should be 20% of the proposed solution	5	5	Less than or equal to 20% of proposed solution
			Disqualify	More than 20% NL-SAS will be disqualified
10	Must have native storage resource partition Capabilities including Virtual Storage Partitions within a single Physical Storage and Cache Partitioning for Data QoS	10	10	Native without any additional licenses
			5	With additional licenses
11	Required 64 GB DRAM Cache per controller. Total cache 128	5	5	64GB DRAM and 128GB Total Cache

GB		Disqualify	Less than 64GB DRAM and 128GB Total Cache will disqualify
Total Marks	**100**	**70 % of the Total Marks will get Qualified for Financial Opening**	

Note: Failing to qualify on any of the above criteria will not be considered for further evaluation

Ratings for tender evaluation will be as follows:

Sr. No.	Description	Evaluation Weight-age
1.	Technical Proposal	70%
2.	Financial Proposal	30%

Financial bids of firms who score at least 70% on the technical evaluation will be opened before the representatives who wish to attend the tender opening. 30 % weight-age will be given to financial proposals of responding organizations. The formula for financial scoring is that the lowest bidder gets 30 points and the other bidders score 30 multiplied by the ratio of the lowest bid divided by the quoted price.

Example:
Value quoted by lowest bidder = A
Value quoted by second lowest bidder = B
Value quoted by third lowest bidder = C
Financial scoring of the lowest bidder will be = 30
Financial scoring of the second lowest bidder will be= (A/B)*30
Financial scoring of the third lowest bidder will be = (A/C)*30
Technical scoring out of 100 = A
Carried Forward & Prorated Technical scoring = A x 0.7
Points obtained in the detailed technical evaluation will be carried forward & prorated. Tender will be awarded to the bidder with maximum accumulative points (Technical Score + Financial Score).
The decision will be binding on all concerned and will in no case be challengeable in any forum.

2.9 Format of Financial Proposal

Bidder must submit its financial proposal in accordance with the following format and must mention the Total Quoted Amount for Branches/Aggregation Site in words and figures.

SNO	Item Description	Amount in PKR	GST	Total Amount in PKR
1	Provision, Installation, Commissioning, Deployment of SAN Storage			

2.10 Currency

All currency in the proposal shall be quoted in Pakistan Rupees (PKR). Dollar quoted price will be converted in PKR on current rate of quotation open date.

2.11 <u>Withholding Tax, Sales Tax and other Taxes</u>

Bidder is hereby informed that the Bank shall deduct tax at the rate prescribed under the tax laws of Pakistan, from all payments for services rendered by any bidder who signs a contract with the Bank. Bidder will be responsible for all taxes on transactions and/or income, which may be levied by government.

2.12 <u>Governing Law</u>

This bidding document and any contract executed pursuant to this document shall be governed by and construed in accordance with the laws of Pakistan. The Government of Pakistan and all bidders responding to this bidding document and parties to any contract executed pursuant to this document shall submit to the exclusive jurisdiction to Courts.

2.13 <u>Acceptance of Proposals</u>

The Bank of Khyber reserves the right not to accept the lowest or any proposal as per KPPRA rules and to annul the bidding process without assigning any reason.
The acceptance criteria will be as follows:

1. Bidder must technically comply with mentioned Technical Evaluation criteria.
2. Bidder must score at least 70% in the technical evaluation.
3. Bidder must be the highest evaluated bidder (i.e. Technical Score + Financial Score is maximum).

IF FURTHER INFORMATION REGARDING THIS BIDDING DOCUMENT IS REQUIRED, PLEASE FEEL FREE TO CONTACT THE CONCERNED DOMAIN ADMINISTRATOR (OWNER):

Mr. Wali Khan,
Officer Data Centre
Wali.Khan@bok.com.pk

TERMS & CONDITIONS

1. The Procurement shall be conducted in accordance with the Khyber Pakhtunkhwa Procurement Rules 2014 on **Single Stage Two Envelope Procedure**.

2. Bank of Khyber invites two separate sealed envelopes, one for Technical Proposal and One for Financial proposal from Tier-1 partner of the Manufacturer of SAN Storage having legal presence in Pakistan for delivery, deployment, testing, configuration, commissioning, services and support of the required equipment.

3. Bidders are required to submit both sealed proposals to the office of the **Head Procurement Division, The Bank of Khyber** on or before **Monday, 9th April, 2018 at 10:30AM**. Tender Opening Date is **Monday, 9th April, 2018 and Time is 11:00 AM** at The Bank of Khyber, Head Office.

4. Company seal / stamp must be fixed on both Technical Proposal and Financial Proposal.

5. All the firms applied for the Tender must provide documents in line with the Mandatory requirements and should qualify the Technical Evaluation Criteria. **If any firm fails to qualify the Technical Evaluation Criteria, then Financial Proposal of the same will not be opened.**

6. Call Deposit of two percent (2%) of the total bid amount must be attached with financial proposal in separate sealed envelope in favor of Head Procurement Division, The Bank of Khyber.

7. All prices quoted must be inclusive of all Taxes applicable, such as GST, Income Tax, etc.

8. The prices quoted shall remain valid for 120 days, after the date of opening the tender.

9. **In case of failure to complete the assignment as per Project Plan, per day penalty will be imposed which will be determined by the Bank.**

10. The Bank of Khyber will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.

11. Dollar quoted price will be converted in PKR on current rate of quotation open date.

12. **No negotiations and revised bids will be allowed.**

Head Procurement, Head office,
The Bank of Khyber, State Life Building, Peshawar.
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