GOVERNMENT OF PAKISTAN
REVENUE DIVISION
FEDERAL BOARD OF REVENUE
[CUSTOMS WING]
Project Management Unit - Integrated Transit Trade Management System (ITTMS)
Central Asian Regional Economic Cooperation – Regional Improving Borders Services
Room. 342, 3rd Floor, FBR House, Main Constitution Avenue, Islamabad.
Ph: 051-9203917 Fax: 051-9450006
*****

C.No.1(81)Cus-Project/ITTMS/PSW/1430   Islamabad, the 22nd April, 2022

Subject: **Minutes of 2nd Pre-Bid Meeting held at PMU CAREC-RIBS (ITTMS) Hqrs, Islamabad on 14th April, 2022 for Procurement of Information Communication Technology Products and Services for Pakistan Single Window (PSW) Against ICB No. PMU-ITTMS(ICB)/PSWDC/ICT-2022 dated 29th March 2022**

Lot 1: Software: Supply, Installation, Configuration, & Implementation of Softwares for PSW.
Lot 2: Hardware: Supply, Installation, Configuration, Testing, Training & Implementation of Networks and Security, Compute (Servers) and Storage Equipment for PSW.

The 2nd Pre-Bid meeting was convened and chaired by the Project Director CAREC-RIBS (ITTMS), FBR. Following PMU-ITTMS and PSW representatives attended:

PMU-ITTMS:
1. Mr. Ali Raza Hanjra – Project Director CAREC-RIBS (ITTMS), FBR
2. Mr. Noman Siddiqui – ICT & Security Specialist (PMSC)
3. Mr. Azam Dil Khan – M&E Officer CAREC-RIBS (ITTMS), FBR

PSW Team:
1. Mr. Sheeraz Abdul Rasheed – Head of Network/Infrastructure (PSW)
2. Mr. Abu Asim – Head of Software Development (PSW)

The bidders (list attached as **Annex A**) were briefed by The Project Director–CAREC-RIBS (ITTMS), FBR on the bidding documents, particularly the commercial aspect of the Bidding Document, Bid Data Sheet, Conditions of the Contract and Documentation to be submitted along with details of the 1st Pre-Bid meeting's responses to the queries.

During the said meeting, the participants were invited to solicit any queries to know the nature of the observations and were advised to formally submit their queries to PMU-ITTMS for written replies/advice by giving a cut off time i.e. COB 17:00 Hrs, Friday 15th April, 2022.
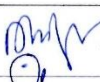
The meeting concluded with a vote of thanks to and from all the participants. The queries received in PMU-ITTMS are attached as **Annex-B.** The bid submission will take place as per the original timelines given in the IFB.

Muhammad Ali Raza
(Project Director)
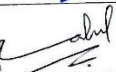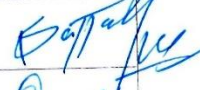
Copy:
1. The SA to Member Customs (Operations), FBR, Islamabad.
2. The Senior Transport Specialist, ADB, Manila.
3. Mr. Gul Rehman, Project Director, PSW, FBR, Islamabad.
4. Mr. Aftab Haider, CEO, PSW, FBR, Islamabad.
5. Mr. Afnan Khan, Additional Director, PSW, FBR, Islamabad.
6. The Team Leader, PMSC, PMU, Islamabad.

2ⁿᵈ Pre-Bid Meeting for Procurement of ICT Products and Services for PSW at PMU ITTMS, FBR

DATED:14.04.2022

Sr. No	NAME	DESIGNATION/ ORGANIZATION	EMAIL	CONTACT	SIGNATURE
1.	Ali Raza	PD ITTMS, FBR			
2.	NOMAN SIDDIQUI	ICT & Sec Spcl. PMSC			
3	Sheeraz A. Rachee	HOD IT Infra PSW			
4	ABUL ASIM	HOD SOFTWARE DEVELOPMENT	abul.asim@psw.gov.pk		
05	SHAHZEB K ZEESHAN	BUSINESS UNIT HEAD-JAFFER BUSINESS SYSTEM	shahzeb.zeeshan@jbe.live	0321-8501319	
06	Sohaib Saif	Business Associate Jaffer Business Systems	sohaib.saif@jbs.live	0349-8666953	
07	Muhammad Ahsan Saleem	Technical Support Engineer CNS Engineering	ahsan.saleem@cns-e.com	03103164678	
08	SHAHBAZ AKHTAR	SPM-K CNS Engineering	shahbaz.akhtar@cns-e.com	0320 4143325	
09	TAYYAB RIAZ	MANAGER TECHNICAL PREMIER SYSTEMS	TAYYABR@PREMIER.COM.PK	0307-5550238	
10	NADEEM AFZAL	SYSTEM CONSULTANT PREMIER SYSTEMS	NADEEM_AFZAL@Premier.com.pk	0302-5556250	
11	ANJUM KHALEEQ	BDM ARWEN TECH Pvt Ltd	anjum.khaleeq@arwentech.com	03008508321	

Sr. No	NAME	DESIGNATION/ ORGANIZATION	EMAIL	CONTACT	SIGNATURE
12	Waqar Ahmad	Senior Consyltam Arwentech	waqar.ahmad@arwentech.com	0321-2888574	
13	Nusrullan	Synergy computers pvt ltd.	nasrulla@synergy.net.pk	0300 5011924	
14	Raheel Malik	GM /WAVETEC	raheel.malik@wavetec.com	03332379800	
15	Asim Zafar	GM/ wavetec	asim.zafar@wavetec.com	0333-5126944	
16	Ahmad Masood	4B Gentel.	ahmad.masood@siliconst.net	0308-8878700	
17	Navid Ahmed	CMC Preshs	navid@cmc.net.pk	0333-4216001	
18	SAJJAD NOOR.	CMC	SNOOR@CMC.NET.PK.	0321-4774900	
18	Zia ul Mustfa	DwP	zia.mustfa@dwpcm.pk	0301-8503279	
19	Saleh Khakwani	DWP	saleh.khakwani@dwp.com.pk	0333-5546535	M. Saleh-Chau
20	Ali Raza khan	Dell EMC	ali.raza2@dell.com	0300-2005438	
21	UMER RAJA	DELL EMC	umer_raja@dell.com	0345 5580019	

2nd Pre-Bid Meeting for Procurement of ICT Products and Services for PSW at PMU ITTMS, FBR

DATED:14.04.2022

Sr. No	NAME	DESIGNATION/ ORGANIZATION	EMAIL	CONTACT	SIGNATURE
12	Umer Farooq	Manager-Presales PTCL GROUP	Umer.Farooq@ptclgroup.com	0 333 8949159	UNm.
23	Azam Dil Khan	M1E Officer	azamdkhan@hotmail.com	03340007204	
24	Zulfiqar Ali	GM Commercials	ali.zulfiqar esb8kig.com	0321. 5875870	Zulfigar.

OBSERVATIONS / QUERIES RAISED BY FIRMS IN SECOND PRE-BID MEETING DATED 14TH APRIL 2022

1. Firm Name: Jaffer Business Systems

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
1	Jaffer Business Systems	Commercial	Bid Security	Please add Bank Guarantee as one of the Instruments of Bid Security as per mentioned in your RFP.	Callable bid security shall be in the form of readily encashable financial instrument e.g. Demand Draft, Pay Order/Bankers Cheque.
		Technical	Licenses	What current licensing model is being used? CSP?	No licensing model as of today.
		Technical	Licenses	Exchange Server Enterprise or Standard?	Standard.
		Technical	Services	Services required in City?	Karachi.
		Technical	Licenses	SA for SQL Enterprise has been requested. Its available under EA & MPSA. Please share the existing contract details so that we can validate the eligibility and share the pricing accordingly. If no as of now, then we are going to propose under MPSA.	There is no EA or MPSA etc. model or licensing as of today. Our requirement is to have Perpetual Licensing with Software Assurance (SA). Therefore, quote the best available licensing model with SA.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
2	ARWENTECH PVT. LTD	3.0 Core Router	Schedule of Requirements at Page 6-138	On core router, they should remove redundant supervisor and expansion slots. We provide redundancy through multiple boxes	Please follow BID DOCUMENT clause.
		6.0 Internet Firewall	Schedule of Requirements at Page 6-177	Internet firewall and core firewall should be from two different vendors. Internet firewall should be dimensioned based on the internet speed. You are asking for 45G IPsec throughput, what is your internet speed going to be. The performance number requirements need to be rationalized	Please follow BID DOCUMENT clause.
			Virtualization and Backup Solution	RFP specifies VMware (as Virtualization) and Veeam (as backup) Solution. Is it mandatory?	Yes.
		Firewalls	Section 6: Schedule of Requirements at Page 6-144	Make/OEM of Internet Firewall shall be different from Data Center firewall. Is there any specific compulsion of OEM country Like U.S.A or China	No. Only OEM difference is required.
		6.0 Storage Solution for Virtualized Host	Section 6: Schedule of Requirements at Page 6-119	Storage based VMs Yes, all the images/snapshots of VMs are on Storage, however you mentioned that ESX Hosts does not require to have storage to get up Hypervisor. (Please elaborate more)	Please follow BID DOCUMENT Specs.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
		Half/Full Blade Servers and Rack Mount Servers	Section 6: Schedule of Requirements at Page 6-106 Till Page 6-241	Throughout requirement for microSD Flash Memory Card 32GB microSD Flash Memory Card (Is it recommended, what is the minimal GB requirement for different kind of servers)	**For Half/Full Blade Servers:** 2 x 256 GB SSD with OEM recommended Raid 1 with same controller card as per the technical specifications.
			General Question	All application based solutions like NMS and micro-services are On-premises, nothing can be proposed as SaaS solution?	All On-premises.
		11.0 NMS	Section 6: Schedule of Requirements at Page 6-153	Should cover additional 20%, for devices of current infrastructure. However, what in terms of management/administrative privilege accounts for monitoring.	Infrastructure to be procured under the BID DOCUMENT specs, plus 20% additional. We assume that there should be no limitation on how many administrative / privilege accounts that can be created for monitoring purposes. However, for service desk, 15 technician licenses would be required.
		11.0 NMS	Section 6: Schedule of Requirements at Page 6-153	Should cover additional 20%, for devices of current infrastructure. Is it scalable only in terms of devices, what about the different applications (VMware/ Applications/Databases etc.)	Scalable for all. Refer to page 6-196 under heading "Features include".
	Arwen	Commercial		Section 3 : Evaluation & Qualification Criteria Sub section 2.3: Experience and Technical Capacity: The asked value of contracts is on a higher side for both lots Instead of value, PSW may please ask if the Bidder in the last 5 years have implemented (Singly or in JV) at least one project of similar nature. For both Lots.	Please follow BID DOCUMENT Clauses.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				For reference, we present here the page # 49, Section III Evaluation and Qualification Criteria, FBR RFP # 1(27)/P&CM/PO/2021. It says: If a Bidder is not a manufacturer, but is offering the Goods on behalf of the Manufacturer under Manufacturer's Authorization Form (Section IV, Bidding Forms), the Manufacturer shall demonstrate the above qualifications (i), (ii), (iii) and the Bidder shall demonstrate that it has successfully completed at least 03 contracts of similar goods in the past 05 years as detailed hereto in this document. Moreover, the bidder/ firm must be authorized Tier-1/ Gold partner/ or equivalent dealer of the respective brand including but not limited to sales and services and the same shall be evidenced by providing Authorization Certificate of quoted brand/ product from the Manufacturer.	
				Sub section: 2.4.2 Size of Operation (Average Annual Turnover) The Average annual turnover asked in the RFP may be applied to the manufacturer and not its partner organization. Average annual turnover should be such that skilled SI organizations with a focus on niche areas and expertise within, are able to participate. In Pakistan competent SI	Please follow BID DOCUMENT Clauses.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				organizations with Tier1 partnerships with principal vendors have average annual turnover of around 300M to 500M. These SI organizations are providing services in similar areas (as asked in RFP by PSW) to FSI, Telcos and Public sector customers with a very tough SLAs. We request the values be reasonable in PKR. For reference, we present here the page # 48, Section III Evaluation and Qualification Criteria, FBR RFP # 1(27)/P&CM/PO/2021. It says: (a) If the Bidder is a manufacturer: (i) Financial Capability The Bidder shall furnish documentary evidence that it meets the following financial requirement(s): - Documentary proof of average financial turnover of at least US$ 10 Million for the last three (03) years. (Financial audit statement/ Bank Statement or any appropriate document duly issued and/ or verified by concerned bodies to be provided as evidence). (ii) Experience and Technical Capacity	

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s) Should have at least ten (10) years post-registration experience in production of Supply of IT equipment/ solution (especially the required hardware and software etc.). Must have support arrangements through authorized agents across Pakistan (where these supplies shall be made) equipped with essential tools and technical staff. (iii) Documentary Evidence The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement: The goods (to be delivered with services) shall fully comply with the Technical Specifications and meant for Data center working environment vis-à-vis country's specific environmental and other such conditions.	

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				Moreover, the Supplier shall furnish the user documentation, the operation manuals, and service manuals for each appropriate unit of the supplied Goods and other information pertaining to the performance of the Goods, in hard copy format, in soft copy format and in the form of on-line help, before the Goods are taken over and accepted by the Purchaser.	
				Section 4: Bidding Forms Form FIN - 3: Cash Flow Capacity (Not Applicable) In bid docs it is Not Applicable. We feel this should be applicable to gauge the financial capability of the bidder to deliver the project. Bidder should be required to submit bank reference and support letter to deliver the single project of $5m plus. Bidder should submit satisfying documents to PSW along with bid which demonstrates its capability to do so.	Please follow BID DOCUMENT Clauses.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
3	DWP Technologies (Pvt.) Ltd.	Technical (Blade Servers)	Pg. 6-104 - Section 6: Schedule of Requirements 1.1 Blade Servers Half Height	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 4GB DRAM & NV Cache. The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective. Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/csdocuments/Shared-Content_data-Sheets_Documents/en/us/dellemc-poweredge-raid-controller-h745-datasheet.pdf	Both flash-backed write cache and battery backed / operated write cache is acceptable.
		Technical (Blade Servers)	Pg. 6-106 - Section 6: Schedule of Requirements 1.2 Blade Servers Full Height	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 2GB DRAM & NV Cache.	Both flash-backed write cache and battery backed / operated write cache is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective. Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/doccontent/shared-content/data-sheets/en/Documents/Dell-PowerEdge-RAID-Controller-H730P.pdf	
		Technical (Rack mount Servers)	Pg. 6-109,6-110,6-111,6 -112, 6-113, 6-114,6-115, 6-116, 6-117, 6-118, 6-131 Section 6: Schedule of Requirements **2.0** Rack Mount Server for Production Database **3.0** Rack Mount Server for Production Reporting **4.0** Rack Mount Server for Production Backup Server	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 4GB DRAM & NV Cache. The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective.	Both flash-backed write cache and battery backed / operated write cache is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
			5.0 Rack Mount Server for Production Data Warehouse **6.0** Rack Mount Server for Production IRMS **7.0** Rack Mount Server for Production Dev-QA – Database **8.0** Rack Mount Server for Production Dev-QA - PA Model Server **9.0** Rack Mount Server for Production Dev-QA - Warehouse Server **10.0** Rack Mount Server for Production Dev-QA - Reserved Server **11.0** Rack Mount Server for Production Management Server **18.0** Rack Mount Server for Ngnix	Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/csdocuments/Shared-Content_data-Sheets_Documents/en/us/dellemc-poweredge-raid-controller-h745-datasheet.pdf	
		Technical (Rack Mount Server)	Pg. 6-109- Section 6: Schedule of Requirements 2.0 Rack Mount Server for Production Database	The memory slot is requested to be adjusted as per 2U Rack mount server i.e. 32 DIMM Slots scalability instead of 48. The quantity of fans need to be adjusted as per 2U rack mount	In 1st pre-bid meeting response to queries, 2U rack mount servers are allowed. All other accessories such as DIMM slots, number of power supplies and their rating, number of fans can be adjusted as per OEM recommendation.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				servers, up to 6 hot pluggable fans instead of 8. As per required configuration, 800W power supply with fault tolerance will meet the requirements. Kindly shift the power supply from 1500W to 800W or as per configuration load requirement. Please note that the required configuration is available in minimum 2U form factor.	
		Technical (Rack Mount Server)	Pg. 6-110-Section 6: Schedule of Requirements 3.0 Rack Mount Server for Production Reporting	The memory slot is requested to be adjusted as per 2U Rack mount server i.e. 32 DIMM Slots scalability instead of 48. The quantity of fans need to be adjusted as per 2U rack mount servers, up to 6 hot pluggable fans instead of 8. As per required configuration, 800W power supply with fault tolerance will meet the requirements. Kindly shift the power supply from 1500W to 800W or as per configuration load requirement.	In 1st pre-bid meeting response to queries, 2U rack mount servers are allowed. All other accessories such as DIMM slots, number of power supplies and their rating, number of fans can be adjusted as per OEM recommendation.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				Please note that the required configuration is available in minimum 2U form factor.	
		Technical (Rack Mount Server)	Pg. 6-111-Section 6: Schedule of Requirements 4.0 Rack Mount Server for Production Backup Server	"VMware virtual SAN Certified" can be ignored or the requirement is for VSAN READY NODE Server? Please clarify.	Please follow BID DOCUMENT Clause.
		Technical (Rack Mount Server)	Pg. 6-114-Section 6: Schedule of Requirements 7.0 Rack Mount Server for Production Dev-QA – Database	Processor Platinum 8353H not available in the quoted brand Dell EMC. The 8353H is 18C Core Platinum processor. Minimum of 32C Cores is available in the platinum class. To meet the 18C core requirement we can offered processor Gold 6326. Please allow acceptance of Gold processor or shift the requirement to Platinum 32C Cores.	Please follow BID DOCUMENT clause. OR BETTER is mentioned in the BID DOCUMENT in specific Clause.
		Technical (Storage)	Pg. 6-119-Section 6: Schedule of Requirements 12.0 Storage Solution for Virtualized Hosts	**RFP Clause:** 102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection and 3 Hot Spares for protection with minimum 150,000 IOPS **Query**	102TB usable.

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S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				- Please clarify the term "102TB usable capacity on Hypervisor"? - NVMe is a latest platform when it comes to storage and it comes with lot of innovations which are superior to traditional RAID and old mechanical storage practices. Kindly shift the RFP clause to "102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection as per manufacturer best practice with minimum 150,000 IOPS" so that we can comply and everyone can have a level playing field.	Please follow BID DOCUMENT clause.
		Technical (Storage)	Pg. 6-122- Section 6: Schedule of Requirements 13.0 Storage Solution for Physical Servers	**RFP Clause:** 100TB usable capacity on Hypervisor required with high performance low latency (< 2 ms) drives with RAID protection and 3 Hot Spares for protection with minimum 150,000 IOPS **Query**	100TB usable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				- Please clarify the term "100TB usable capacity on Hypervisor"?	Please follow BID DOCUMENT clause.
				- NVMe is a latest platform when it comes to storage and it comes with lot of innovations which are superior to traditional RAID and old mechanical storage practices. Kindly shift the RFP clause to "102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection as per manufacturer best practice with minimum 150,000 IOPS" so that everyone can comply and everyone can have a level playing field.	
		Technical (Storage)		**Consideration of Effective Capacity:** The current RFP specifications require NVMe storage with 100TB useable. Please note that NVMe Storage solutions are built with data efficiency in mind, which is	Please follow BID DOCUMENT Clause.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				achieved by Data Reduction feature. The current required config of storage can store 400TB of data in 100TB useable with the same price point. That is 4 times the capacity requirement. For level playing field Please add "100TB Useable with 400TB effective capacity (or 300TB) with manufacturer guarantee in the RFP"	
		Technical (Purpose Built Backup Appliance)	Pg. 6-125- Section 6: Schedule of Requirements 14.0 Purpose Built Backup Appliance	Following clauses to be reconsidered: As discussed in Pre-Bid Meeting - Kindly allow 16G FC instead of 32G FC. We can meet RFP Backup requirement of 20TB/hr with 16G FC. - For Raid Protection please change it to "As per Manufacturer best practices" instead of RAID 1,5 and 6. Please note Purpose based backup appliance needs to be configured as per the manufacturer best practices so that they can	Please follow BID DOCUMENT Clause. Read the clause as "Offered backup appliance shall support Raid 1, 5 and Raid 6 and/or as per OEM best practices"

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				meet the claimed benchmarks. - Kindly shift 3PB to 1PB as discussed in the pre-bid meeting.	Please follow BID DOCUMENT Clause.
		Section 3: Evaluation & Qualification Criteria	2.3.1 Contractual Experience For LOT-2: US$ 4,300,000	By reviewing the scope of the RFP, the assessed value of the project seems to be more than 15 Million USD. Hence we request that only those companies should be qualified which have at-least one purchase order worth more than 15 Million USD and second purchase order worth more than 4.3 Million USD	Please follow BID DOCUMENT Clause.

4. Firm Name: Premier Systems

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
4	Premier Systems	Technical (Software)	RFP Page 63 Serial # 20	Its mentioned in RFP that vCloud Suite Standard 1year or Tanzu Standard 3 years, however not much details are provided in Tanzu implementation and integration. However, if we go with vCloud Suite which does not comes with Tanzu then we can use Opensource Tools for kuberneetes deployment rather than Tanzu Standard Deployment. Please clarify the requirement for vCloud Suite Standard and Tanzu Standard.	vCloud Suite Standard is required. Tanzu is required for Kubernetes.
		Technical (Blade Server)	RFP Page 106 Serial 1.1 (Blade Server Half Hight)	It is mentioned in RFP that only 32GB Single SD Card required in Blade Server. **Recommendation:** Single SD 32 GB Card is single point of failure as well as storage is not appropriate for VMware ESXi Installation on Local Storage. Please consider to add 2 SD Cards 256GB in RAID 1 or add 2 X SSD / NVMe Drives 256GB or higher in RAID 1 local in Blades for Hypervisor (ESXi) Installation	**For Half/Full Blade Servers:** 2 x 256 GB SSD with OEM recommended Raid 1 with same controller card as per the technical specifications.
		Technical (Blade Server)	RFP Page 108 Serial 1.2 (Blade Server Full Hight)	It is mentioned in RFP that only 32GB Single SD Card required in Blade Server. **Recommendation:** Single SD 32 GB Card is single point of failure as well as storage space is not appropriate for VMware ESXi Installation on Local Storage. Please consider to add 2 SD Cards 256GB in RAID 1 or add 2 X SSD / NVMe Drives 256GB or higher in RAID 1 local in Blades for Hypervisor (ESXi) Installation	**For Half/Full Blade Servers:** 2 x 256 GB SSD with OEM recommended Raid 1 with same controller card as per the technical specifications.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
		Technical (Trainings)	Trainings for all products	Please Clarify all trainings are required from OEM in certified Training Centres of OEMs.	Foreign training from OEM with certification for each individual system(s) as quoted in the bid (hardware+software) for 3-4 persons from ITTMS & PSW technical team at the OEM certified training facility. All boarding/lodging and other expenses are to be covered. It should be OEM training at the certified training facility with certified trainer having industry experience of 10+ years in private and government institutions/organization.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
4	Premier Systems	Technical (Software)	RFP Page 63 Serial # 20	Its mentioned in RFP that vCloud Suite Standard 1year or Tanzu Standard 3 years, however not much details are provided in Tanzu implementation and integration. However, if we go with vCloud Suite which does not comes with Tanzu then we can use Opensource Tools for kuberneetes deployment rather than Tanzu Standard Deployment. Please clarify the requirement for vCloud Suite Standard and Tanzu Standard.	vCloud Suite Standard is required. Tanzu is required for Kubernetes
		Technical (Blade Server)	RFP Page 106 Serial 1.1 (Blade Server Half Hight)	It is mentioned in RFP that only 32GB Single SD Card required in Blade Server. **Recommendation:** Single SD 32 GB Card is single point of failure as well as storage is not appropriate for VMware ESXi Installation on Local Storage. Please consider to add 2 SD Cards 256GB in RAID 1 or add 2 X SSD / NVMe	**For Half/Full Blade Servers:** 2 x 256 GB SSD with OEM recommended Raid 1 with same controller card as per the technical specifications.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				Drives 256GB or higher in RAID 1 local in Blades for Hypervisor (ESXi) Installation	
		Technical (Blade Server)	RFP Page 108 Serial 1.2 (Blade Server Full Hight)	It is mentioned in RFP that only 32GB Single SD Card required in Blade Server. **Recommendation:** Single SD 32 GB Card is single point of failure as well as storage space is not appropriate for VMware ESXi Installation on Local Storage. Please consider to add 2 SD Cards 256GB in RAID 1 or add 2 X SSD / NVMe Drives 256GB or higher in RAID 1 local in Blades for Hypervisor (ESXi) Installation	**For Half/Full Blade Servers:** 2 x 256 GB SSD with OEM recommended Raid 1 with same controller card as per the technical specifications.
		Technical (Trainings)	Trainings for all products	Please Clarify all trainings are required from OEM in certified Training Centres of OEMs.	Foreign training from OEM with certification for each individual system(s) as quoted in the bid (hardware+software) for 3-4 persons from ITTMS & PSW technical team at the OEM certified training facility. All boarding/lodging and other expenses are to be covered. It should be OEM training at the certified training facility with certified trainer having industry experience of 10+ years in private and government institutions/organization.
		Technical	RFP Page 138 Serial 3.0 (Core Router)	It is mentioned "IPSec encryption throughput should be atleast 20 Gbps and "Router should support minimum of 6000 IPSec tunnels **Recommendation:** Router as per your network topology is working as WAN aggregation point of all the WAN traffic which should	Please follow BID DOCUMENT clause. Please follow the solution drawing.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				support strong routing features to ensure all the routing functionalities at WAN edge. IPSec traffic encryption should be dropped on your internet firewalls. Firewalls are specifically made for supporting IPSec tunnelling. It is requested these two clauses with respect to Core Router should be relaxed.	
		Technical	RFP Page 139 Serial 4.0 (Branch Router)	It is mentioned "The OS of branch router and HO router must be same" **Recommendation:** The compatibility and integration of core router and branch router should be on features whether they are using the same OS or not. It is requested this clause should be relaxed.	Please follow BID DOCUMENT clause.

5. Firm Name: CNS Engineering:

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
5	CNS Engineering	**Commercial**	Bid Bond	It is requested to allow to offer/submit bid security in PKR by using the exchange rate. If bid issuance by bank or otherwise , please allow to submit bid bond from the local bank for EM Purpose	PKR is allowed as per the SBP/NBP prevailing rate of the instrument date.
		Generic – Informational	SIEM – DC Firewall	Integration of DC firewall With Sandboxing solution required ?	Yes.
		Generic – Informational	Product delivery	**RFP Clause:** End of Sales date is not fixed for products so cannot be committed. Usually product lifecycle policy is product can be under support for next 5 years once the EOS is announced. **Query:** "Any/All equipment quoted should not be End of sale and should support End of Life / Support for next 5 years."	At the time of delivery, product(s) MUST not be announced as End of Life/End of Sale/End of Support. If any product comes under these criteria before the delivery, OEM recommended replacement should be provided / delivered.
		Technical (Network)	Internet Firewall	RFP Clause : Make/OEM of Internet Firewall shall be different from Data Centre firewall. Query : Same brand firewall provides tight integration, broad visibility into the attack surface and overcome management and operational overheads. It makes it easy to integrate with other products such as analyzer and sandbox, when both segment firewalls integrate with sandbox the coverage expands for zero-day attack detection and prevention. Also reporting provides broad visibility into network activity and makes it simple to detect/prevent attacks.	Please follow BID DOCUMENT clause

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
		Technical (Network)	Load Balancer	RFP Clause : The proposed hardware appliance should support 1Gbps of L7 throughput from Day one and scalable up to 10Gbps L7 throughput with license. Query : The throughput licensing is model is different of all OEM, this point should be generic like *"The proposed hardware appliance should support 10 Gbps of L7 throughput"*	Please read it as "The proposed hardware appliance should support 10 Gbps of L7 throughput from Day One."
				RFP Clause : The system must have dedicated CPU core for management, and separate CPU cores for packet handling or equivalent (M). Query : Not every OEM comply with this requirement. Please remove it OR Remove Mandatory clause from it OR Change to Preferably system should have dedicated CPU core for management, and separate CPU cores for packet handling or equivalent	Equivalent functionality is acceptable.
				RFP Clause : The system must be able to score an A+ from SSL labs with SSL profile Query : This point is supportive to a specific vendor , please remove it or allow to come with vendor respective recognized bodies	This is not a mandatory clause.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
		Technical (Network)	WAF	**RFP Clause:** The proposed ADC solution should be Hardware based appliance. **Query:** The point should be: The proposed WAF should be hardware based appliance	WAF with ADC ensures reliable security of the application layer, therefore, follow BID DOCUMENT clause.
				RFP Clause The proposed hardware appliance should support 1Gbps of L7 throughput from Day one and scalable up to 5Gbps L7 throughput with just license **Query:** The throughput licensing model is different of all OEMs, this point should be generic like *"The proposed hardware appliance should* *support 5 Gbps of L7 throughput with WAF features enabled"*	Please read as "The proposed hardware appliance should support 5 Gbps of L7 throughput with WAF features enables.
				RFP Clause The proposed solution Should support 0.4 Million L7 HTTP Requests per Sec Query The point can be excluded from the requirement as it related to ADC/LB requirement and not WAF.	Please read this feature as Non-Mandatory requirement.
		Technical (Network)	SIEM	Query : Total list of assets in the environment with type/	Please consider the BID DOCUMENT BOQ along with standard benchmarking for the application and production environment.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response

				As reference sheet relate to required info in attached. Filled information pls and it will serve the purpose.
				
				Query
				
				Vulnerability assessment:
				 Pls clarify
				   1. you want proposed SIEM to do vulnerability assessment OR
				   2. your want integration of SIEM with another vulnerability assessment tool.
				Also state number of assets to be scanned.
				
				Query :
				 Online storage: what's the log retention period required
				
				Query
				Number of windows / linux servers
					You may add 30% for the purpose of unforeseen sizing.
					
					Integration with another VA tool (not available at this stage) would be required at the later stage.
					
					3 months.
					
					Windows Server as per BOQ. Rest of the servers are Linux (Ubuntu).

	CNSE	Technical	Smart Board	RFP Clause Tools to include: 2 x pens; 2 x erasers, multicolor four pen bundle, highlighter pen, stamps and cubes, magic pen Query	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				- These requirement are to specific . please make it open for better competition and amend it to : - Toots to include: Stylus pen X2; Smart Pen X1, White Board VC solution, Built-in Geometrical Features RFP Clause Sensors: proximity, ambient light, infrared, room temperature and humidity Query Vendor specific , removal requested	External touch tablet control (if offered) to be provided. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

S.NO	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
1	CNS Engineering	Technical (Network)	NMS	Please Provide the no of Concurrent users who will log and resolve trouble ticket and approve request?	15 users.
2				Using any existing monitoring Solution? If yes then what is the name of that solution	No.
3		Technical (Server/Storage)	Purpose Built Backup Appliance	200TB is the appliance capacity for backup which will fill gradually, we need to know PSW frontend data for example PSW will backup "A" machine 2 times a day if the size of that machine is 10GB which means it will use 20GB data instead of 10GB, in this case your frontend data is 10GB	20 GB frontend licensing may be considered.

5. Firm Name: CNS Engineering:

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
5		Technical (Blade Servers)	Pg. 6-104 - Section 6: Schedule of Requirements 1.1 Blade Servers Half Height	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 4GB DRAM & NV Cache. The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective. Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/csdocuments/Shared-Content_data-Sheets_Documents/en/us/dellemc-poweredge-raid-controller-h745-datasheet.pdf	Both flash-backed write cache and battery backed / operated write cache is acceptable.
		Technical (Blade Servers)	Pg. 6-106 - Section 6: Schedule of Requirements 1.2 Blade Servers Full Height	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 2GB DRAM & NV Cache.	Both flash-backed write cache and battery backed / operated write cache is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective. Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/doccontent/shared-content/data-sheets/en/Documents/Dell-PowerEdge-RAID-Controller-H730P.pdf	
		Technical (Rack mount Servers)	Pg. 6-109,6-110,6-111,6 -112, 6-113, 6-114,6-115, 6-116, 6-117, 6-118, 6-131 Section 6: Schedule of Requirements **2.0** Rack Mount Server for Production Database **3.0** Rack Mount Server for Production Reporting **4.0** Rack Mount Server for Production Backup Server **5.0** Rack Mount Server for Production Data Warehouse	**Storage Controller:** The cache de-staging is offered with battery operated RAID Controller with 4GB DRAM & NV Cache. The battery operated cache de-staging is very effective and useful for 100 % power cut off. The cache is de-staged gracefully which can meet the PSW equipment operational objective.	Both flash-backed write cache and battery backed / operated write cache is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
			6.0 Rack Mount Server for Production IRMS **7.0** Rack Mount Server for Production Dev-QA – Database **8.0** Rack Mount Server for Production Dev-QA - PA Model Server **9.0** Rack Mount Server for Production Dev-QA - Warehouse Server **10.0** Rack Mount Server for Production Dev-QA - Reserved Server **11.0** Rack Mount Server for Production Management Server **18.0** Rack Mount Server for Ngnix	Kindly allow this as it will be fulfilling the PSW operational requirement of de-staging the data. URL: https://i.dell.com/sites/csdocuments/Shared-Content_data-Sheets_Documents/en/us/dellemc-poweredge-raid-controller-h745-datasheet.pdf	
		Technical (Rack Mount Server)	Pg. 6-109- Section 6: Schedule of Requirements 2.0 Rack Mount Server for Production Database	The memory slot is requested to be adjusted as per 2U Rack mount server i.e. 32 DIMM Slots scalability instead of 48.	In 1st pre-bid meeting response to queries, 2U rack mount servers are allowed. All other accessories such as DIMM slots, number of power supplies and their rating, number of fans can be adjusted as per OEM recommendation.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				The quantity of fans need to be adjusted as per 2U rack mount servers, up to 6 hot pluggable fans instead of 8. As per required configuration, 800W power supply with fault tolerance will meet the requirements. Kindly shift the power supply from 1500W to 800W or as per configuration load requirement. Please note that the required configuration is available in minimum 2U form factor.	
		Technical (Rack Mount Server)	Pg. 6-110- Section 6: Schedule of Requirements 3.0 Rack Mount Server for Production Reporting	The memory slot is requested to be adjusted as per 2U Rack mount server i.e. 32 DIMM Slots scalability instead of 48. The quantity of fans need to be adjusted as per 2U rack mount servers, up to 6 hot pluggable fans instead of 8. As per required configuration, 800W power supply with fault tolerance will meet the requirements. Kindly shift the power supply from 1500W to 800W or as per configuration load requirement.	In 1st pre-bid meeting response to queries, 2U rack mount servers are allowed. All other accessories such as DIMM slots, number of power supplies and their rating, number of fans can be adjusted as per OEM recommendation.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				Please note that the required configuration is available in minimum 2U form factor.	
		Technical (Rack Mount Server)	Pg. 6-111- Section 6: Schedule of Requirements 4.0 Rack Mount Server for Production Backup Server	"VMware virtual SAN Certified" can be ignored or the requirement is for VSAN READY NODE Server? Please clarify.	Please follow BID DOCUMENT Clause.
		Technical (Rack Mount Server)	Pg. 6-114- Section 6: Schedule of Requirements 7.0 Rack Mount Server for Production Dev-QA – Database	Processor Platinum 8353H not available in the quoted brand Dell EMC. The 8353H is 18C Core Platinum processor.\n\nMinimum of 32C Cores is available in the platinum class. To meet the 18C core requirement we can offered processor Gold 6326.\n\nPlease allow acceptance of Gold processor or shift the requirement to Platinum 32C Cores.	Please follow BID DOCUMENT clause. OR BETTER is mentioned in the BID DOCUMENT in specific Clause.
		Technical (Storage)	Pg. 6-119- Section 6: Schedule of Requirements 12.0 Storage Solution for Virtualized Hosts	**RFP Clause:**\n\n102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection and 3 Hot Spares for protection with minimum 150,000 IOPS\n**Query**\n- Please clarify the term "102TB usable	102TB usable.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				capacity on Hypervisor"?	
				- NVMe is a latest platform when it comes to storage and it comes with lot of innovations which are superior to traditional RAID and old mechanical storage practices.	Please follow BID DOCUMENT clause.
				Kindly shift the RFP clause to "102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection as per manufacturer best practice with minimum 150,000 IOPS" so that we can comply and everyone can have a level playing field.	
		Technical (Storage)	Pg. 6-122- Section 6: Schedule of Requirements	**RFP Clause:**	

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
			13.0 Storage Solution for Physical Servers	100TB usable capacity on Hypervisor required with high performance low latency (< 2 ms) drives with RAID protection and 3 Hot Spares for protection with minimum 150,000 IOPS	102TB usable.
				Query - Please clarify the term "100TB usable capacity on Hypervisor"? - NVMe is a latest platform when it comes to storage and it comes with lot of innovations which are superior to traditional RAID and old mechanical storage practices. Kindly shift the RFP clause to "102TB usable capacity on Hypervisor required with high performance low latency (<2 ms) drives with RAID protection as per manufacturer best	Please follow BID DOCUMENT clause.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
				practice with minimum 150,000 IOPS" so that everyone can comply and everyone can have a level playing field.	
		Technical (Storage)		**Consideration of Effective Capacity:** The current RFP specifications require NVMe storage with 100TB useable. Please note that NVMe Storage solutions are built with data efficiency in mind, which is achieved by Data Reduction feature. The current required config of storage can store 400TB of data in 100TB useable with the same price point. That is 4 times the capacity requirement. For level playing field Please add "100TB Useable with 400TB effective capacity (or 300TB) with manufacturer guarantee in the RFP"	Please follow BID DOCUMENT Clause.
		Technical (Purpose Built	Pg. 6-125- Section 6:	Following clauses to be reconsidered:	

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
		Backup Appliance)	Schedule of Requirements 14.0 Purpose Built Backup Appliance	As discussed in Pre-Bid Meeting - Kindly allow 16G FC instead of 32G FC. We can meet RFP Backup requirement of 20TB/hr with 16G FC. - For Raid Protection please change it to "As per Manufacturer best practices" instead of RAID 1,5 and 6. Please note Purpose based backup appliance needs to be configured as per the manufacturer best practices so that they can meet the claimed benchmarks. - Kindly shift 3PB to 1PB as discussed in the pre-bid meeting.	Please follow BID DOCUMENT Clause. Read the clause as "Offered backup appliance shall support Raid 1, 5 and Raid 6 and/or as per OEM best practices" Please follow BID DOCUMENT Clause.

Invitation for Bids No.: IFB/PSW-DC-ICT-2022
ICB No.: PMU-ITTMS(ICB)/PSWDC/ICT-2022

Procurement of Information Communication Technology Products and Services for Pakistan Single Window (PSW)

Section 6: Schedule of Requirement

Page # 158
Core Switch
Requirement # 1: *"Switch should support cell switching so that a single flow can be load balanced to multiple fabric modules to improve the Fabric modules utilization"*
[H3C]: It is requested to please remove this clause as it can be fulfilled by a specific brand and restricting other competitive brands available in the market.
Official Reply / Response: Please follow BID DOCUMENT Clause.

Page # 163
TOR Switches
Requirement # 1: **All SFP/SFP+/QSFP+ modules must be from the Principal OEM.**
[H3C]: Kindly specify the Transceivers to be quoted with the solution.
Official Reply / Response: Please refer to Section-4 Bidding Forms, Price Schedule (BOQ).

Requirement # 2: **EVPN should be supported with clustering technology OEM is providing.**
[H3C]: It is requested to please remove this clause as it can be fulfilled by a specific brand and restricting other competitive brands available in the market.
Official Reply / Response: Please refer to Section-6 Schedule of Requirements, General Requirement:
- Bidder / Solution provider can provide/propose the equivalent solution / equipment / hardware / OEM supplied software as requested in below specifications. For any proprietary technology / terminology, Bidder / Solution Provider may propose equivalent or better technology / terminology / functionality as per their proposed equipment / technology as requested in technical specifications.

Requirement # 3: ***Switch should support MAC Mobility.***

[H3C]: It is requested to please remove this clause as it can be fulfilled by a specific brand and restricting other competitive brands available in the market.

Official Reply / Response: Please follow BID DOCUMENT Clause. It's a Non-Mandatory requirement.

Page # 165

Core Router

Requirement # 1: ***Forwarding performance should be atleast 36 Mpps***

[H3C]: It is requested to please modify this requirement to atleast 10Mpps

Official Reply / Response: Please follow BID DOCUMENT Clause.

Requirement # 2: ***IPSec encryption throughput should be atleast 20 Gbps***

[H3C]: It is requested to please modify this requirement to atleast 10Gbps

Official Reply / Response: Please follow BID DOCUMENT Clause.

Requirement # 3: ***Router should support embedded hardware encryption***

[H3C]: It is requested to please remove this clause as it can be fulfilled by a specific brand and restricting other competitive brands available in the market.

Official Reply / Response: Please follow BID DOCUMENT Clause.

Page # 168

Branch Router

Requirement # 1: ***IPSec encryption throughput - 150 Mbps***

[H3C]: It is requested to please modify this requirement to atleast 50Mbps

Official Reply / Response: Please follow BID DOCUMENT Clause.

Requirement # 2: ***Router should support embedded hardware encryption***

[H3C]: It is requested to please remove this clause as it can be fulfilled by a specific brand and restricting other competitive brands available in the market.

Official Reply / Response: Please follow BID DOCUMENT Clause.

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
7	**PTCL**	Commercial	PO Value	Lot 1: $1.5 Million Lot 2: $4.3 Million - If the aim of high PO Value is to know about company strength, kindly consider Companies turnover - If we are talking about specific project, kindly reduce the PO Value to Lot 2: $1.5 to 1 $1 Million - Kindly consider total values of cumulative projects of same Nature of PTCL having multiple POs, with cumulative value above $4.3 Million. *This needs to be revised for our Participation	Please follow BID DOCUMENT Clause.
		Technical	**MCU & General Requirements**	The Solution should be appliance based with redundant power supplies ☐ Must Support and compatible with proposed VC Endpoints ☐ Must Support and compatible with 3rd party end points ~~and office 365~~ ☐ Should connect all type in meetings i.e Room based, Desktop Video Systems,	Office 365 compatibility is required.

				mobile clients or browsers ☐ 70 inch 4K display screen ☐ MCU should be at HD108060fps (transmit and receive) up to 4-6Mbps or equivalent ☐ MCU should be scalable by just adding the license without changing the hardware ☐ MCU should support SIP, H.323 standards for communications ☐ MCU should support H.263, H.264, ~~WebM / VP8, Microsoft RTV, HTML5/WebRTC~~ ☐ Should support dual stream protocols ☐ Content sharing using standard H.239 and BFCP ☐ Support encryption in SIP and H.323 modes ☐ Should also support G.711, G.729A, G.722, G.722.1, AAC-LD or better ☐ Automatic Gain Control and noise cancellation ☐ Support aspect ratio of 16:9 and 4:3 ☐ Resolution mix should be supported. End point should get the maximum at his capacity without reducing the capacity of other ☐ Shall support user management by implementing strong password, aging rule for password, displaying login records, implementing maximum no of concurrent user session and user session timeout ☐ Recording (local); 2 port at least ☐ DTMF and Echo cancellation ☐ AES encryption on H.235 and TLS for SIP or better	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

			☐ Must support continuous presence and must ensure that continuous presence can be sent and receive between endpoints ☐ All licenses must be inclusive for 3 years ☐ List active and upcoming meeting for a 24 Hour period as well as the ability to search and filter ☐ List participants in an ongoing meeting/conference ☐ Ability to mute/unmute audio for individual / all / group or new participant ☐ Meeting events logs including call statistic video, audio or presentation	
	Technical	**VC End Points**	☐ Codec based System with ~~1920x1080~~ 4K camera with Horizontal FoV 80 degrees and vertical FoV ~~48.8~~ 50 degrees or better codec, Microphone Array, cables, and control panel ☐ The unit should support H.323, SIP standards for communications ☐ Video standards: H.264, H.265 ☐ The unit should support 1080p 60 fps ~~☐ Should support content sharing using standard based H.239 and SIP~~ ☐ Wired or wireless Presentation Sharing	1920x1080 4K is a minimum requirement. FOV 48.8 is a minimum requirement. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

					• Supports dual content sources for local meetings. 4K content sharing (local 30 fps, remote 5 fps)	
					▯ Audio standards: ~~G.711~~ G.711A, G.711U, G.722, G.722.1, ~~G.729~~, G.729A, AAC-LD	G.711 A/U standard must be supported. G.729 A/AAC-LD standard must be supported.
					▯ 20kHz bandwidth or better with crystal clear audio and stereo sound	
					▯ Automatic Gain Control and Automatic Noise Suppression	
					▯ Keyboard noise reduction and instant adaptation echo cancellation	
					▯ One HDMI input supports formats up to maximum 1080p60	
					▯ Two HDMI inputs support formats up to maximum 4K (3840 x 2160) at 30 fps including HD1080p60	
					▯ Support for multiple microphones, each with separate echo cancellers and noise reduction; all microphones can be set for balanced line level	
					▯ 2 or 3 x Microphone Input; ~~2 x desktop / tabletop microphones to be included~~	2 x desktop / tabletop microphones must be provided.
					▯ Two HDMI outputs support formats up to 3840 x 2160p60 (4Kp60)	
					▯ Camera Minimum ~~20 x~~ 12 x optical zoom or better	12X or better is acceptable.
					▯ Automatic or manual focus/brightness/white balance	
					▯ IPv4 and IPv6 support	
					▯ Auto Gatekeeper Discovery	
					▯ IP Precedence	
					▯ H.323 based Packet Lost Recovery	
					▯ Embedded Encryption: H.323 and SIP point-to-point, Standards based: H.235 v3 and Advanced Encryption Standard	

				(AES) and Automatic key generation and exchange ☐ Warranty: 3 years for entire hardware, software and accessories	
		14.0 Smart Display Board		Multitouch technology ☐ ~~Response time of 9ms or better~~ should support no less than 20 touch points ☐ ~~Frame rate 150Hz or better~~ ☐ ~~Accuracy of 1.5mm over 90% of area~~ With ±1mm precision, and no less than 2 styluses. ☐ ~~Minimum object size of 5mm~~ ☐ Tools to include: 2 x pens~~, 2 x erasers, multicolor four pen bundle, highlighter pen, stamps and cubes, magic pen~~ ☐ Screen size of 86 inches*, LED, aspect ratio of 16:9, 4K UHD, refresh rate of 60Hz ☐ Viewing angle of 178 degrees or better ☐ ~~Glass thickness of 4mm, fully heat tempered, anti-glare that resists smudges and fingerprints~~ should support anti-reflection and glare, automatic screen brightness adjustment functions. ☐ Convenience buttons: power, home~~, volume, screen shade, freeze frame~~	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. External touch tablet control (if offered) to be provided. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

				☐ Sensors: ~~proximity,~~ ambient light~~, infrared, room temperature and humidity~~	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
				☐ Audio: 2 integrated ~~20W~~ 15W speakers or better	15W or higher is also acceptable.
				Software ☐ Android ~~8.0~~ 9.0 or above ☐ Digital whiteboard, Web browser, Screen sharing, Personalized home screen and settings, Live input preview, Interactive widgets, Templates, graphic organizers and manipulatives, File and app libraries, google drive and onedrive access ☐ Ability to run thirty party applications, cloud storage access, object awareness supported ☐ PC Computing: OPS Support, OPS PC with Windows 10 Pro, all power requirements must be met	8.0 or above is acceptable.
				Input/Output/Cables ☐ Input: HDMI, ~~VGA video~~, stereo 3.5mm, ~~RS-232~~, RJ 45, USB type C , USB 2.0 type A, USB 3.0 type A and B	Please follow BID DOCUMENT Clause. RS-232 is optional. Equivalent functionality through external adapter is acceptable.
				☐ Output: HDMI, Stereo 3.5mm, ~~S/PDIF, RS-232~~	Please follow BID DOCUMENT Clause. RS-232 is optional. Equivalent functionality is acceptable.
				☐ Cables and Accessories: power cable, 5m USB 2.0 cable, Pens, ~~Erasers,~~ External dual band 2.4 and 5 GHz	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.

				antenna, remote control, wall mount kit **Hardware** ⬚ 4 GB DDR Memory or better ⬚ 32 GB or better storage ⬚ 2 x RJ 45, WIFI dual band, ~~Bluetooth~~ **Warranty** ⬚ 3 years including hardware, software and accessories	Please follow BID DOCUMENT Clause. Equivalent functionality through external adapter is acceptable.

Commercial			
Section	**RFP Requirement**	**Suggestions for Modification**	**Reply / Response**
Delivery timeline	Delivery timeline of 90 Days	Delivery time line is need to be extend from 90 to 120 Days	No change is allowed. Please adhere to the BID DOCUMENT timelines.
Delivery Location	NA	Kindly mention Location of delivery	All equipment in Karachi. 1 x Interactive Board for Islamabad.
Quoted Price	NA	Quoted Price will be in CFR or FOB? Or Can be Quoted in DDP USD?	CIP - Clearance and delivery at the specified locations including all charges/freight/levy till the prescribed destination(s) to be handled by the bidder. Only Duties and Taxes to be paid by PSW.
Bid Security	NA	Bid security in PRR would be acceptable?	PKR is allowed as per the SBP/NBP prevailing rate of the instrument date.
PO Value	Lot 1: $1.5 Million Lot 2: $4.3 Million	PO value needs to be revised for healthy and maximum competition Lot 1: $ 100,000/ Lot 2: $ 1 Million *This needs to be revised for our Participation	Please follow BID DOCUMENT Clause.

Technical Queries:

Networks			
Section	**RFP Requirement**	**Suggestions for Modification**	**Reply / Response**
1.0 Core Switch	Switch should support 1G/10G (copper, Fiber), 25G/40G/100G line cards from day one.	As per network diagram in the RFP, Core switch do not require 1G/10G copper, if there is requirement, then fiber ports can be used through optical to copper cables. Request to modify it to 1/10G fiber please.	Please read the revised clause as: Switch should support 1G/10G (Fiber/Optical), 25G/40G/100G line cards from day one.

2.0 ToR Switches	Switching throughput of the switch should be at least 4 Tbps.	Considering the port density (48x10G/25G and 6*100G/40G) total throughput of 3.6Tbps fulfills the requirements, therefore request to modify it to 3.6Tbps or more.	3.5 Tbps or above is allowed.
2.0 ToR Switches	Forwarding throughput capacity of at least 2 Bpps.	As per 3.6Tbps throughput, 800 Mpps or 900 Mpps fulfills the performance requirements, therefore request to modify it to 900 Mpps or more.	900 mpps or above is allowed.
2.0 ToR Switches	Switch should support at least 8 x 100G/40G QSFP28 ports.	As per proposed network diagram of RFP, 2*40G ports are connected for TOR switches. So 4*40G (2 for current requirement and 2 for future) can suffice the need, therefore request to modify it to 4*40G/100G or more ports.	Minimum 4 or above.
3.0 Core Router	IPSec encryption throughput should be at least 20 Gbps	As per proposed network diagram of RFP, the routers are connected on 1G, even considering future scalability, 8-10Gbps IPSec encryption would suffice the requirement. Request to modify it to 10Gbps or higher	Minimum 8 Gbps or above is allowed.
5.0 Data Center Firewall	Firewall throughput PPS 165Mpps or above	As per over all specs of DC firewalls, 30Mpps or 35Mpps fulfills the requirements. Requesting to modify it to 30Mbps or more to have healthy competition	Firewall throughput PPS 40 Mpps or above.
5.0 Data Center Firewall	Interfaces (Loaded) Minimum 12 x10G SFP+,1GSFP ports, 4x100G/40G	As per proposed network diagram of RFP, 2 ports are used for connecting with Core switch at 40G. Therefore request to modify it to 2*100G+2*40G or 4*40G ports or higher	4*40G ports or higher is acceptable.
5.0 Data Center Firewall	App control throughput: 60Gbps or more	As per over all specs of DC firewalls, 40Gbps or 50Gbps fulfills the requirements. Requesting to modify it to 50Gbps or more to have healthy competition.	Minimum 50 Gbps or Higher is acceptable.

Storage			
Capacity & Scalability	102TB usable capacity on Hypervisor required	102TB usable capacity on Hypervisor required with 3.84TB or 7.68TB Enterprise NVME disk with RAID protection and 3 Hot	Please follow the BID DOCUMENT Clause.

	with high performance low latency (< 2 ms) drives with RAID protection and 3 Hot Spares for protection with minimum 150,000 IOPS.	Spares for protection with minimum 150,000 IOPS.	
Protocols	Offered Storage array shall support all well-known protocols like FC, iSCSI, VMware Virtual Volumes (VVols) FC & ISCSI, etc.	Offered Storage array shall support all well-known protocols without additional devie like FC, iSCSI, NFS, CIFS, VMware Virtual Volumes (VVols) FC & ISCSI, etc.	Please follow the BID DOCUMENT Clause.
Virtualization Support	VMware Site Recovery Manager (SRM) Integration Virtualization API Integration: VMware: VAAI and VASA. Hyper-V: Offloaded Data Transfer (ODX) and Offload Copy for File	VMware Site Recovery Manager (SRM) Integration Virtualization API Integration: VMware: VAAI and VASA. Hyper-V: Offloaded Data Transfer (ODX)	Offload Copy for File feature is in Non-Mandatory Clause.

8. Firm Name: 4BGentel through SiliconST

S. No.	Firm Name	Nature of Query	Ref. of SBD	Observation / Query	Reply / Response
8	4B Gentel	Video Conference Solution (MCU and General Specifications)	Lot-2 Section 6. (13)	Removal of Office 365 Integration. As this is already given. Windows systems can use any platform to connect with the video conference such as Zoom, Microsoft teams etc. This integration should be removed.	Office 365 compatibility is required.
		Video Conference Solution (MCU and General Specifications)	Lot-2 Section 6. (13)	Remove protocols WebM / VP8, Microsoft RTV, HTML5/WebRTC. As mostly the communication from MCU is done on H.263, H.264 protocols. These protocols are not required and are very specific.	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Video Conference Solution (VC Endpoints)	Lot-2 Section 6. (13)	Change camera specifications from 1920 x 1080 to 4K Change Vertical FOV to 50 degrees from 48.8 degrees. These are base line specifications and should be included in VC at the bare minimum level.	1920x1080 4K is a minimum requirement. FOV 48.8 is a minimum requirement.
		Video Conference Solution (VC Endpoints)	Lot-2 Section 6. (13)	Change audio standards: Specify the codec. For example Remove G.711 and add G.711A and G.711U Remove G.729 and add G.729A. G.711 is very generic specific information is required.	G.711 A/U standard must be supported. G.729 A/AAC-LD standard must be supported.
		Video Conference Solution (VC Endpoints)	Lot-2 Section 6. (13)	Remove 2 x Desktop / Tabletop microphones to be included as microphones are inbuilt in most of the video conference solutions and therefore external microphones are redundant and not required.	2 x desktop / tabletop microphones must be provided.
		Video Conference Solution (VC Endpoints)	Lot-2 Section 6. (13)	Change minimum optical zoom from 20x to 12x. This minimum requirement Is very high and most of the competition will not be able to meet it and is very specific. Kindly reduce it to encourage competition.	12X or better is acceptable.

		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly change response time of 9ms or better to 20 touch points as these touch points are a better indicator of the products quality	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Remove the frame rate 150Hz or better	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly improve the accuracy from ±1.5 mm precision to ±1mm precision. It is also recommended to include styluses	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly remove 2 x erasers, multicolor four pen bundle, highlighter pen, stamps and cubes, magic pen. As these are very specific requirements of a brand. Keep the two pen requirement.	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable. External touch tablet control (if offered) to be provided.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly remove volume, screen shade, freeze frame from convenience buttons as these also correspond to a very specific brand.	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly remove proximity, infrared, room temperature and humidity as these are specific to a particular brand.	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (General Requirements)	Lot-2 Section 6. (14)	Kindly change the wattage of integrated speakers from 20W to 15W or higher.	15W or higher is also acceptable.
		Smart Display Board (Software)	Lot-2 Section 6. (14)	Kindly change the Android version from 8.0 to 9.0 as it is the latest version.	8.0 or above is acceptable.
		Smart Display Board	Lot-2 Section 6. (14)	Kindly remove VGA and RS232 from the input types. As these are very old and are almost obsolete now for digital display systems.	Please follow BID DOCUMENT Clause. RS-232 is optional. Equivalent functionality through external adapter is acceptable.

		(Inputs/Outputs/ Cables)			
		Smart Display Board (Inputs/Outputs/ Cables)	Lot-2 Section 6. (14)	Kindly remove S/PDIF, RS 232 from audio output types. As today audio inputs are used with HDMI and Stereo 3.5mm jacks.	Please follow BID DOCUMENT Clause. RS-232 is optional. Equivalent functionality through external adapter is acceptable.
		Smart Display Board (Inputs/Outputs/ Cables)	Lot-2 Section 6. (14)	Kindly remove erasers from cable and accessories. As this is brand specific.	Please follow BID DOCUMENT Clause. Equivalent functionality is acceptable.
		Smart Display Board (Hardware)	Lot-2 Section 6. (14)	Kindly remove Bluetooth from the Hardware list. As it has minimal requirements and it is discouraged to have it in a display board because of its lack of utility and security risks.	Please follow BID DOCUMENT Clause. Equivalent functionality through external adapter is acceptable.

S. No.	Firm Name	Nature of Query	Ref. of SBD/Clause	Observation / Query	Reply / Response
9	Premier Systems	Core Switch and ToR switch	Switch should support cell switching so that a single flow can be load balanced to multiple fabric modules to improve the Fabric modules utilization.	Fabric modules is a prop implementation and not every OEM necessarily supports it. It should be left on OEM to decide how to meet the performance and scaling requirement.	Please follow BID DOCUMENT Clause.
		Core Switch and ToR switch)	Fabric module should support N+1 design. If one fabric module fails, system performance should not downgrade	Fabric modules is a prop implementation and not every OEM necasssrily supports it. It should be left on OEM to decide how to meet the performance and scaling requirement.	Please follow BID DOCUMENT Clause.
		Core Switch and ToR switch)	Switch should support 1:N virtualization. One physical switch can be virtualized into a multiple logical switch.	This clause seems to be favoring particular OEM and should be considered to made optional or removed for healthy competition. Device contexts are used in multi-tenancy cloud providers where as PSW is not providing any cloud service such as IaaS etc to users.	Please follow BID DOCUMENT Clause. It is our future requirement.
		Core Switch and ToR switch)	Switch should support SDN feature from day 1 for future evolution without any change in hardware.	It should be asked SDN or open APIs to help configure and manage the network switches as the requirement and network evolves over time.	Please follow BID DOCUMENT Clause.
		Branch Router / Core Router	Router should support SDN-WAN feature from day 1 for future evolution without any change in hardware.	Looking at the topology and understanding PSW requirement there is no need for SD-Wan since the only purpose of the routers is to provide secure connectivity to PSW DC. SD-WAN is a separate solution, and some OEMs might not bundle it with their existing routers. Please make it optional or remove for healthy competition	Please follow BID DOCUMENT Clause.