Response to Bidders Queries - Power Information Technology Company (PITC)

Tender No. PITC/G-224(47)/07-2020

Sr. No.	Firm Name	Queries	Description	Clarifications
			LOT-A Servers	
1	M/s IBL-Unisys	LOT A, Cat-1, Cat-2, Cat-3 (Servers)	• Memory: DDR4 2933 MHz LRDIMMs, this is biased and vendor specific now new RAMs are available with 3200Mhz • Hard Disk Drive: 1.2TB SAS SSD is not generic and vendor biased • IO Expansion: 8 slots requirement is not generic and vender specific • Optical Drive: internal optical drive in 24 drive chassis is vendor biased.	It is neither biased nor vendor specific, however memory: DDR4 2933 MHz LRDIMMs or higher, Hard Disk Drive: 1.2TB or higher SAS SSD. IO expansion slots may be read as 6 or higher. Optical drive is an essential requirement and is not biased; however, internal or external drive is permitted.
2	M/s Computer Marketing Co. (Pvt) Ltd	Supports mainstream operating systems, such as Windows, Redhat Linux, SuSE Linux, VMware and Citrix Xeon Server , Solaris (11.2, 11.3 & 11.4)	Solaris support is no more available since 2018. Kindly remove it from mainstream systems.	Support of solaris with download compatability is essential for target usage of these servers in the billing system of PITC with Solaris OEM warranty
3		DVD-RW drive SATA (Internal)	min. 24 SAS/SATA/SSD/NVMe hard drives support thus internal optical drive can't be install Kindly allow internal / external optical drive.	See response 1.
4	M/s JBS	4 X 1.2 TB U.2 PCIe 3.0 x4 Solid State	Kindly Clarify which HDD Required? Is it SAS SSD also mentioned Read Intensive, Write Intensive or Mixed used required?	4 X 1.2 TB U.2 ,3.0 x4 SSD mix use
5		I/O Expansion: Support PCIe SSD card, must support min 8 PCIe Slots	Kindly amend it as 6 PCIe Slots as only one Brand offered 8 Slot.	See response 1.

6		Optical Drive: DVD-RW drive SATA (Internal)	When you select 24 HDD Drive then DVD-RW available as external option. Kindly amend.	See response 1.
7		Onboard Network Adapter: (2 * Port 10Gb SFP+, 2 * Port 10Gb Ethernet) / 4 * Port 10Gb	Kindly clarify how many Ports are required and medium are these Ethernet/SFP+?	It is (2 * Port 10Gb SFP+, 2 * Port 10Gb Ethernet) (Minimum)
8	M/s JBS	Compatibility: Supports mainstream operating systems, such as Windows, Redhat Linux, SuSE Linux, VMware and Citrix Xeon Server , Solaris (11.2, 11.3 & 11.4)	All OEM support desired OS except Solaris as Oracle is extend the Solaris support and new Generations process not supported it. Kindly remove. Yes, in Virtualize environment VM 6.X Version Supported Solaris 11.2 and 11.3 and VM 7.0 Supported 11.4. follow below link.	See response 2.

LOT-B - Desktop computers

9	M/s Computer Marketing Co. (Pvt) Ltd	Mini Tower/Tower Casing	Different principal use different name like mini tower / micro tower. Kindly allow mini / micro tower	Both mini tower / micro tower are allowed.

LOT-D-LaserJet Printers

10	M/s Computer Marketing Co. (Pvt) Ltd	D-1, You asked for 22 PPM LaserJet Printer (B&W) with 256MB RAM	All leading brands comes with 64MB or 128MB RAM for entry level printers. Kindly change the RAM with 64 or 128MB.	Memory will be minimum 128 MB RAM or higher
11	M/s OAG	22 PPM Laser Jet Printer (B&W)	Memory should be revised as 128 MB RAM.	See response 10.
12	M/s Computer Marketing Co. (Pvt) Ltd	40 PPM Laser Jet Printer (B&W) You asked foe 512MB RAM	All leading brands comes with 128MB or 256MB RAM for Medium duty printers. Kindly change the RAM with 128MB or 256MB.	Memory will be minimum 256 MB RAM or higher

13	M/s Computer Marketing Co. (Pvt) Ltd	D-3, 22ppm Laser Jet Printer/ Fax/ Scanner/Copier (Multifunction) you asked for 256MB RAM and Scan: 600 x600 dpi, 9600x9600	In all leading brands Entry level MFPs comes with 64 or 128MB RAM. Kindly change accordingly. Scan resolution is 600x600 DPI. Kindly remove 9600x9600 DPI as it is not available in all leading brands.	Memory will be minimum 128 MB RAM or higher Scan: 600 x600 dpi.
14	M/s OAG	22 PPM Laser Jet Printer /fax/scanner/copier (Multifunction)	Scan resolution enhanced technology and Searchable PDF should be ignored.	Already described at Sr no. 13
15	M/s Computer Marketing Co. (Pvt) Ltd	D-4, 18 PPM Laser Jet Printer (Color) You asked for 512MB RAM and Dept. ID, Secure Print, Device Security, Auto Toner Seal Removal	In all leading brands entry level color printers comes with 128MB RAM. Kindly change it and Dept. ID, Secure Print, Device Security, Auto Toner Seal Removal features are not available in entry level color printers. Kindly remove this feature.	Memory will be minimum 128 MB RAM or higher

16	M/s JBS	In Printer Category after 40PPM jump up to 60 to 75 PPM category. Kindly add the 50PPM to 55 PPM category so, DISCO have option of this category if they needed.	Kindly add below generic Specification for 50PPM to 55 PPM Category: Print Speed: upto 55 PPM (A4) or (letter) Resolution: 1200 x 1200 dpi Memory : 1 GB RAM Processor: 800 MHz Standard : 5 trays standard:4600 Sheets (Two 500-sheet input trays, 100-sheet multi-purpose tray, 3500-sheet High-capacity input tray) Built-in Hard Disk 320 GB Monthly duty cycle : upto 300,000 Connectivity: 2 Hi-speed USB 2.0, 1 Ethernet 1/100/1000 Gigabit network Instant-on Technology and Auto-On/Auto-off Technology Mobile printing capability e Print and air print Direct printing from USB storage device.	Agreed: New LOT-E5 added Specification for 50PPM to 55 PPM Category: Print Speed: upto 55 PPM (A4) or (letter) or higher Resolution: 1200 x 1200 dpi Memory : 1 GB RAM or higher Processor: 800 MHz Standard : 5 trays standard:3500 Sheets or higher Built-in Hard Disk 200 GB or higher Monthly duty cycle : upto 250,000 or higher Connectivity: 2 Hi-speed USB 2.0, 1 Ethernet 1/100/1000 Gigabit network Instant-on Technology and Auto-On/Auto-off Technology Mobile printing capability e Print and air print Direct printing from USB storage device.

LOT-E-Heavy Duty LaserJet Printers

17	M/s JBS	Heavy Duty LASERJET PRINTERS Category (E-1 & E-2) 4,200 sheets (Standard) or Higher	Kindly amend Sheet Capacity 4,000 to 4,200	4,000 sheets (Standard) or Higher
18	M/s OAG	Per page cost should be calculated on 5 % coverage area instead of 6% coverage area. All the lives must be available on official website and verifiable from manufacturer.		It will remain same as per RFP.
19	M/s OAG	E-1: 60 PPM Laser Jet Printer (B&W)	Paper capacity should be 3650 sheets. Universal Login Manager is brand specific term. Please explain generic term in this regard. USB 3.0 should be ignored	Already described at sr no. 17 USB 2.0 x2 (Host), USB 2.0 x1 (Host), USB 2.0 x1 (Device) Ethernet

20	M/s OAG	E-2 : 90-110 PPM Laser Jet Printer (B&W)	Paper capacity should be 3650 sheets. Universal Login Manager is brand specific term. Please explain generic term in this regard. USB 3.0 should be ignored	4,000 sheets (Standard) or Higher USB 2.0 x2 (Host), USB 2.0 x1 (Host), USB 2.0 x1 (Device) Ethernet
21	M/s OAG	E-3 120-140 PPM Laser Jet Printer (B&W)	Sensor and Mech technology is brand specific. Please explain generic term in this regard. Input trays should not be fixed. Total paper capacity should be mentioned.	As per tender Document.
LOT-G-Software				
22	M/s Wateen	Kindly share more specific details on "Software for High Availability"	What kind of HA ? is it Windows Server Failover Clustering? IBM Power HA System Mirror? DxEnterprise? InfoScale Availability (Veritas Cluster Service). Also please give clarity on Clustering Scale.	Required for operating system and data base application may be windows or any other Operating system cluster.
23	M/s TechAccess Pakistan		Which O365 software package is selected/required by customer? And what services they require in O365 e.g. Email, Teams , SharePoint etc.?	Office 365 Standard
			Do you need MS office including outlook?	Yes
			What is the name, version and data size of the existing email services?	N/A
			There can be multiple High Availability software. It would be better if more information can be provided on this. Some of HA solutions have function based licensing as well. What you want to configure in H.A? Sometimes services/databases come of their own HA functionality or licensing. HA solutions also have core based licensing and segregation by standard and enterprise category.	Server and Data Base application along with configuration and training enterprise complete solution. Enterprise plus with vendor complete solution and training. Licensed per socket based
			For VMware vSphere, are you looking for Standard or Enterprise Plus? The licensing is socket based limited to 32 Cores per socket.	
			Can we provide rate against single software or would we be in need to provide rates for entire Lot?	Vendor may offer rates for single software

		LOT-H: Networking Switches/Routers			
24	M/s IBL-Unisys	Cisco Catalyst 2960-Plus 24TC-L - switch - 24 ports - managed - rack-mountable (SFP or 1000 BASE-T)	Please confirm if SFP ports are required or 1000BASE-T ports are required. Usually uplink ports are SFP and access ports are 1000BASE-T	Cisco Manageable switch with 2 SFP or higher	
25	M/s Wateen		Cisco 2960-Plus24TC-L is near to End of Sale; it is suggested to select C1000-24T-4G-L (Catalyst 1000 24port GE, 4x1G SFP) which is Cisco's latest series and have no financial impact.	2960 or equivalent.	
26	M/s IBL-Unisys	Cisco Catalyst 9300 48-Port Switch	Please specify the type/speed of ports and software features required	Cisco any model equivalent to requirement.	
27	M/s Wateen		Kindly confirm Modular Switch? Or Fixed Uplink Switch? 48 Ports Ethernet? 48 Port Fiber? POE or Full POE? Uplink module required? 1Gbps/10Gbps Uplink SPFs? DNA E or A? Please share detailed requirements	Cisco Manageable switch with 4 SFP 52 ports or higher with 10 GE x 4 ports 9300 or equivalent.	
28	M/s IBL-Unisys	Cisco 4461 Series Integrated Services Routers	Please specify the software features required and any additional ports/cards required with the router	Cisco 4461 Cisco Integrated Services Routers (ISR) 4x IG WAN (combo) + 2x10GSFP+WAN, 1.5 Gbps Default throughput and upgradable through software or equivalent.	
29	M/s Wateen		Any services modules / WAN Modules / SFP / Security license / throughput license / Voice hardware card , please share router's usage details and detailed specification requirements.	In case equivalent, the specifications of the proposed item must be equal or better than the mentioned items in case of non-compliance it will be disqualified. Estimated Qty will be 1	

30	M/s IBL-Unisys	Cisco Network Convergence System Router 5500 Series: 400GE Line Cards	The Cisco Network Convergence Router 5500 Series is a very high end router used by ISPs/Telcos on their aggregation/core. This is beyond the requirement of PITC as conceived by IBL Unisys team. Please re-check the requirement and change accordingly.	Item is not required.
31	M/s Wateen		5500 Series has multiple ports options 18/24/30 ports. Please share required Throughput, total number ports, RTU requirements? Kindly elaborate in details. Thanks	
32	M/s IBL-Unisys	Cisco Firepower 9300 Series	Please confirm if these are the same as required in LOT-I or separate. If separate, then this is again a very high-end model suited for environments where the throughput requirement is in Tbps. Please reconsider and confirm.	Item is not required.
33	M/s Wateen		FWP9300 Series has multiple models, please share required Throughput, max sessions, total number ports in firewall, 1G/10G etc. What kind of licenses are required? Kindly elaborate in details. Thanks	
34	M/s IBL-Unisys	Dell EMC SC Series / HPE 3PAR StoreServ Storage / Dell EqualLogic PS Series Storage Solution	Please confirm if this is the same as required in LOT-J or separate.	Item is not required.
35	M/s Wateen		Please confirm; what specifications are required exactly, How much useable disk? What type of Disk mandatory? How much IOPS required? Max. expansion limits? it would be better to share detailed storage	

36	M/s Computer Marketing Co. (Pvt) Ltd	You asked for CISCO and Dell EMC by name and by model no.	Kindly open the specs for all brands for open and healthy competition.	Dell EMC is not required.
37	M/s IBL-Unisys	The Cisco Network Convergence Router 5000 Series is a very high end router used by ISPs/Telcos on their aggregation. This is beyond the requirement of PITC as conceived by IBL Unisys team. Please re-check the requirement and change accordingly.		Item is not required.
LOT-I Firewall				
38	M/s IBL-Unisys	• Should support upto 100 virtual firewall contexts • Integrates firewall, VPN, intrusion prevention, antivirus, data leak prevention, bandwidth management, anti-DDoS, URL filtering, and anti-spam functions • Identifies over 6000 applications • Should defend against minimum over four million viruses and Trojan horse. Updated on daily basis		Please see Annexure-A
39	M/s premier	Must have minimum 6 x GE Combo + 2 x GE WAN + 2 x 10GE SFP+, 1 x USB2.0 + 1 x USB3.0 Interface, 240GB SSD or Higher	Combo interfaces are not supported. Total 2 x USB interfaces are supported	Please see Annexure-A
40	M/s premier	Identifies over 6000 applications and supports the access control granularity down to application functions. The firewall combines application identification with intrusion detection, antivirus, and data filtering, improving detection performance and accuracy.	Identifies 5, 200 Applications	Please see Annexure-A
41	M/s premier	Should defend against minimum over four million viruses and Trojan horse. Updated on daily basis.	100,000+	Please see Annexure-A

42	M/s premier	Supports BFD and IP-Link for link failure detection	Supports BFD	Please see Annexure-A
43	M/s premier	Open API for integration with third-party products, providing RESTful and NetConf interface, Other third-part management software based on SNMP, SSH, Syslog, Collaboration with Anti-APT solution	Supports NETCONF, SNMP, SSH, syslog and collaboration with anti-APT	Please see Annexure-A
		LOT-J Storage Solution		
44	M/s IBL-Unisys	**LOT J (Storage)**	• ARCHITECTURE: "LUNs should not belong to any controller" vendor specific point and is not generic • CONTROLLER: "scale-out and scale-up", this is also vendor specific not all storage support scale-out • CACHE: 90GB Cache is not generic, cache is always in multiple of 8, vendor specific specification • MULTIPROTOCOL SUPPORT: Not all storage arrays support 32G FC or 40G iSCSI, vendor specific specification • Active-Active License: Not all storage solutions provide native storage based A-A clustering, vendor biased specification • STORAGE MANAGEMENT SOFTWARE: SSD service life monitoring is a vendor specific feature and not generic.	Please see Annexure-B
45	M/s JBS	**MULTIPROTOCOL SUPPORT:** The proposed array should support 16G/32G FC, 10G/25G/40G iSCSI connectivity.	Yes, other brand supported 16G/32G FC, 10G/25G iSCSI connectivity Except 40G. 40G is only support in specific Brand kindly remove 40G.	Please see Annexure-B

46	M/s JBS	RAID LEVEL: The storage array should support RAID 5, and RAID 6 or better.	Kindly amend RAID 6 or better supported. As RAID-5 for only specific Brand.	Please see Annexure-B
47	M/s JBS	NON-DISRUPTIVE MIGRATION: The proposed array should have the capability to seamless migrate data from other vendor's array.	Yes, on application level migration is possible but array to array migration is difficult in multi Brand. Kindly remove or clarify.	Please see Annexure-B
48	M/s JBS	Warranty: 5 years principle supports mandatory	Kindly explain as standard product comes under 3 years warranty for Hardware and software.	Please see Annexure-B
49	M/s premier	HPE Storage comes with max 25G therefore we request you to remove 40G		Please see Annexure-B
50	M/s premier	Remove Raid-5, It should be like Raid-6 or better. Raid-6 provided better data protection as compare to Raid-5.		Please see Annexure-B
		LOT-K UPS and Batteries		
		K-1 650VA:		
51	M/s Computer Marketing Co. (Pvt) Ltd	With minimum 10 minutes backup on full load:	650VA will give 10min backup with one PC+ 17 inch LCD with 1 x 12v-9Ah so need to amend.	As per RFP
52		Transformer with copper winding : Normally in	Normally there is no transformer in smaller range of UPS as now these are high Frequency Design so transformer clause will not be applicable	Agreed
53		circuit test minimum two Power	Do you need Two output sockets to connect the load	Yes
54	M/s MAKKAYS	Battery life / Warranty: It should be specified 1 year		Battery life: 1 year warranty

		K-2: 3 KVA, 6 KVA ,10 KVA (Tower/ Rack) Mounted		
55	M/s Computer Marketing Co. (Pvt) Ltd	Built-in Isolation Transformer with copper winding (In Tower Model)	Normally in High Frequency UPS we do not need Isolation transformer with IT- Load. All leading ups comes without isolation transfer. Kindly remove isolation transfer.	As per RFP
56				
57		Redundant Parallel Architecture RPA	This feature not available in smaller UPS like 3KVA and only available 6KVA/10KVA	Accepted
58		Maintenance Bypass Built-in	In smaller range 3KVA internal manual Bypass not available, Only available in 6/10KVA.	As per RFP
59		Backup Time: 10 Minutes at Full Load	Confirm us how many PC+LCD will be connected with 3KVA, 6KVA and 10KVA Tower + Rack mount UPS for 10 min backup time with internal standard batteries. As per tender 10 min at full load with internal batteries not possible.	10 minutes on respective full load
60	M/s MAKKAYS	As per our discussion regarding UPS and load application (Installed with Servers), Please confirm either UPS required Built in Isolation Transformer based (Low Frequency) or Transformer less Technology (High Frequency)?		As per RFP.
61		Built in Redundant Parallel Architecture RPA? Please confirm all UPS required in Parallel Architecture Design? If the applications are Servers which is having dual supply then no need of parallel card/Architecture Both Server supplies can be powered up from 2 different Standalone UPS's to provide redundancy.		See responses above
62		Parallel Architecture RPA/Card available in 6KVA & 10KVA UPS. It is not available in small rating 3KVA UPS. Please confirm on it?		See responses above
63		Input Power factor 0.9 or less in built in Isolation Transformer UPS. Input Power Factor 0.99 in Transformer less UPS. Need to change according to UPS Technology.		Agreed
64		Input Frequency Range 50Hz +/- 5% in Isolation Transformer based UPS. 40-70Hz in Transformer less UPS. Need to change in Technical Specifications according to UPS Technology?		Agreed

65		Battery Warranty term need to change: It should be specified 1 year.		As per RFP

	K-3: UPS Batteries	
66	M/s MAKKAYS	Most of the battery supplier manufactures battery 12V/7Ah not 7.2Ah. No difference in dimension and other Technical specifications. Need to mentioned 7Ah.	Agreed
67		Battery Warranty term need to change: It should be specified 1 year.	As per RFP

	Other Queries		
68	M/s Wateen	Penalty:	For Non-Imported Goods With penalty @ 1% per day after 45 days of issuance of Purchase Order up to maximum of 10% of the total Purchase order value and For Imported Goods With penalty @ 1% per day after 60 days of issuance of Purchase Order up to maximum of 10% of the total Purchase order	75 days min penalty will be charged for imported goods the delivery period is 75 days
69	M/s MAKKAYS	As per tender the imported item delivery period mentioned 60 Days. Please change it and make it 75 to 80 Days.		75 days min penalty will be charged for imported goods the delivery period is 75 days
70	M/s OAG	CDR should be fixed as previous tenders of PITC and should not be calculated on number of units.		Agreed Bid Money has been fixed as under: Lot-A-(Servers): 500,000 Lot-B-(Desktop computers): 500,000 Lot-C-(Laptops): 500,000 Lot-D-(LaserJet Printers): 200,000 Lot-E-(Heavy Duty LaserJet Printers): 500,000 Lot-F-(Computer Accessories): 100,000 Lot-G-(Software): 200,000 Lot-H-(Networking (Switches and Routers)): 200,000 Lot-I-(Firewall): 500,000 Lot-J-(Storage Solution): 500,000 Lot-K-(Ups And Batteries): 200,000

71	M/s OAG	We also want to highlight that heavy duty printers category E3 ; Finishers should be included in specifications as this type of heavy printing load requires finishers for stacking purposes.	As per RFP
72	M/s OAG	We also want to request you that in case of a single bid; Competent authority doesn't open the financial bid ; In this regard we request you to kindly consider a single bid as it is an open tender and wouldn't be affecting any pricing.	As per PPRA rules.
73	M/s OAG	We have also attached the requested specifications with our letter for your reference	Noted

Power Information Technology Company (PITC)

UPDATED SPECIFICATIONS – FIREWALL

SR. #	ITEMS	REQUIREMENT DESCRIPTION
1	General Specification	Firewall Throughput should be minimum of Large packet (1518 bytes or more) throughput ≥ 4Gbps. All engines enabled throughput should be ≥ 3Gbps
2		Must have minimum 4 x GE copper (Rj45) + 2 x 10 GESFP+, 1 Management Interface, 200GB SSD or Higher
3		Minimum of 1,000,000 Concurrent Connections or Higher.
4		Supports multiple highly reliable VPN features, such as IPsec VPN, SSL VPN, L2TP VPN.
5		Must have minimum IPsec VPN throughput of 1 Gbits/s or higher
6		Number of new sessions per second should be no less than 100,000
7		Should support virtual firewall contexts.
8		Should include 100 SSL VPN user license and support 500 users or higher.
9		Must equip with 1 + 1 dual power supply
10		Should support UTM features including firewall, IPS, anti-spam and content filtering services with three years subscription license
11	Security Features	Integrates firewall, VPN, intrusion prevention, data leak prevention, bandwidth management, anti-DDoS, URL filtering, and anti-spam functions.
12		Identifies over 1000 application or higher and supports the access control granularity down to application functions. The firewall combines application identification with intrusion detection, antivirus, and data filtering, improving detection performance and accuracy.
13		State full packet inspection based on Source IP, Source Port, Destination IP , Destination Port, Protocol , Application, Content, Time, User and Location
14		Should defend against minimum one million or higher viruses and Trojan horse. Updated on daily basis.
15		Should implement application-layer protection for SSL-encrypted traffic, such as IPS, AV, and URL filtering.
16		Must control upper and lower traffic thresholds and implements policy-based routing and QoS marking by application.
17		Must support application Visibility and Control to control specific behaviors.
18		Must support Attack identification and support user-defined signatures
19		Must support Static routing, Policy-Based routing, RIP, OSFP, BGP and ISIS
20		Should defend against SYN Flood, SYN ACK Flood, TCP Flood, UDP Flood
21		Should defend against application-layer attacks, such as HTTP, HTTPS, DNS, and SIP flood attacks
22		Active/Active, Active/Standby mode, Supports configuration backup and restore
23		Supports BFD
25		Should include complete logging reporting like (traffic, threat, URL, Audit
26		Open API for integration with third-party products.
27	Warranty	Three Year comprehensive on-site warranty with NBD delivery including service with parts from the date of delivery. OEM should have at-least 01 warehouses in Pakistan to support RMA and warranties.

UPDATED SPECIFICATIONS – STORAGE SOLUTION (100TB Usable)

ARCHITECTURE	The proposed array should be all flash storage with 2 Active-Active Controllers. The proposed solution should be highly available, proposed storage must include NAS services either gateway based or software/ controller based
CONTROLLER	Dual active-active controllers or higher must support scale up.
RELIABILITY	The Proposed storage array shall be configured with no single point of failure so that failure of storage node / controller shall not impact the operations. Should support hot-swappable SSDs, ports, and power modules without service interruption.
CACHE	Required 192 per controller, (excluding any performance acceleration module, Flash Cache, PAM card, SSD cache, etc.).
MULTIPROTOCOL SUPPORT	The proposed array should support 16G or higher FC, 10G or higher iSCSI connectivity.
FRONT END PORTS	Provide at least 2 x 4 x 10GE ports, and 2 x 4 x 16Gbps FC ports for replication, all FC ports should be fully activated with SFPs.
BACK-END DISKS	Provide 12Gb/s SAS 3.0 disk channels for back-end disk channels
Disk	The disk capacity should be no bigger than 7.68 TB enterprise-level SSDs or higher must be NVME
CAPACITY DENSITY	7.68TB SAS SSD, with guarantee 100TB or more Useable capacity (Before compression / deduplication) with RAID-5
RAID LEVEL	The storage array should support RAID 5,6
DATA EFFICEINCY	The proposed array should support inline compression and deduplication of application data for space efficiency.
PLATFORM SUPPORT	The proposed system should support popular operating system platforms such as Windows, HP-UX Linux, Solaris, IBM AIX , windows etc.
VIRTUALIZED ENVIRONMENT	The proposed array must support virtualized server environment like VMWARE vSphere, Microsoft Hyper-V Should have tight integration with vSphere Virtual Volumes VVol, VAAI, VASA and Microsoft offload data transport (ODX).
NON-DISRUPTIVE MIGRATION	The proposed array should have the capability to seamless migrate data from other vendor's array.

SOFTWARE Requirements	
Items	**Description**
License	All features must licensed to the full capacity of the array. e.g. Replication Snapshots & Thin Provisioning
Deduplication & Compression	Storage Must support Inline compression and Deduplication
INSTANT ACCESS OF COPY	The proposed storage local replication solution should have instant activation of point-in-time copies for read/write access, while coping can continue in the background.
STORAGE MANAGEMENT SOFTWARE	The proposed array should be supplied with Storage management software capable of generating customized reports, real time monitoring, historical performance data for analysis and trending, capacity utilization monitoring and SSD failure alerts
Warranty & Support	Proposed storage system should be quoted with minimum 3 years Hardware and Software warranty and onsite support
OEM Support	Proposed bidder's OEM must have local part depot.
Implementation	Implementation and integration of complete solution should be included
Accessories	10 meter LC-LC Optical Cables for all FC ports, power cords, rack mounting kits, front security bezel/cover etc.
3 years principle supports mandatory	