CORRIGENDUM – III

TENDER NO. WTL/HC/HW-SW/17-18/003 DATED 11.05.2017

1. Bill of Material (Section – H) has been revised. The revised Bill of Material (Section – H) is enclosed superseding the existing.

2. Technical Specification with Compliance Statement (Section – I) has been revised. The revised Technical Specification with Compliance Statement (Section – I) is enclosed superseding the existing.

3. BOQ has been revised. Revised BOQ uploaded.

SECTION – H

BILL OF MATERIAL

Sl. No.	Item Description	Qty	Unit
1.	Server	4	Nos.
2.	FCoE Switch	1	No.
3.	Storage Device	1	No.
4.	Backup Software	1	No.
5.	Backup Tape Library	1	No.
6.	IP KVM Switch with Monitor	1	No.
7.	42 U Rack	1	No

Bill of quantity may change at the time of ordering of Purchase Order. Detailed Technical Specifications are given in Section - I

SECTION - I

TECHNICAL SPECIFICATION WITH COMPLIANCE STATEMENT
(Tender No. WTL/HC/HW-SW/17-18/003)

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MINIMUM SPECIFICATION OF SERVER

Quantity	4 (four) : 2 Application Servers in cluster, 2 DB in cluster : Preferably to be placed in 2 separate rooms / nearby buildings – with each AS and DB server			
Make:				
Model:				
Part No.				

Sl. No.	Component / Performance / Utility for each Server	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remarks
0	**Service**	1. On-site Installation 2. On-site Configuration for cluster, as applicable 3. Document with diagram, as installed and configured 4. On-site parameter tuning for (a) security aspects, (b) performance, (c) software services 5. Auxiliary Document – on re-tuning 6. On-site Vulnerability Assessment of configured (HW, System SW) system - Certificate			
1	**Processor**	1. Make & Model 2. 2 (two) Physical 64 Bit Processors (x86_64 with seamless binary execution of 32 bit) 3. Total Nos. of Processor / Cores / Threads i.e. in total $\underline{\textbf{P}}$ / $\underline{\textbf{C}}$ / $\underline{\textbf{T}}$			
1.1	**Architecture**	64 Bit architecture for all cores (if any) and all processors			
1.2	**Processor Frequency**	Proc Freq. (in GHz)			
1.3	**Cache**	L3 cache in MB			
1.4	**Processor-Memory transport**	1. Byte / transfer 2. Transfer / Sec, 3. Bandwidth			

2	**SPEC- CPU2006 Rates** *[SPEC CPU2006 v1.2]*	SPECPU2006 Rates: 1. SPECint_rate_base2006>= 650 (Make and Model of quoted servers must be certified for SPECint_rate_base2006 (version 1.2) as per www.spec.org 2. Provide printout of certifications from www.spec.org 3. Availability of the same for public at www.spec.org)			
3	**Memory**	1. Memory>= 256 GB, 2. Max Memory support >=256GB 3. Memory Type DDR-4 4. DDR Freq.			
4	**VGA & Others**	VGA Interface / Port with separate VGA Memory>= 1. 16MB 2. 2 (front/back) USB port			
5	**RAID**	Minimum 1 No. Hardware (SAS-3 , 12 Gbps) RAID Controller Supporting RAID Levels 0,1,10, 5, 50, 6 and 60 with minimum 512MB Flash cache			
6	**SAS Casing**	1. Min 2 , 2.5'', 2. Hot-swap / Hot Plug 3. SAS-3 (12 Gbps) compatible casing			
7	**DVD-DL RW**	1 no. of individual / sharable DVD-RW drive.			
8	**FCoE**	2 Nos. of dual Port 10 Gbps Fiber Channel over Ethernet (FCoE) CNA for connecting Storage and Network with redundancy , with booting from storage capability, and with required modules & patch cords (Total 4 ports / interfaces on two separate / independent cards / controllers)			
9	**Ethernet**	1. Min. 2x2 nos. of Gigabit Ethernet Port on RJ-45 with patch cords 2. TCP/IP Offload Engine			
10	**Free Slot for adapters**	Min. 2 nos. Mention type & Parameter			
11	**Server Environment, Management**	1. Dedicated Management Port (RJ-45) with patch cord, and with Remote management functionalities. 2. Web based Management. Server should be able to generate impending failure alerts on processor, memory and hard disk drives.			
12	**Power Supply**	1. Min. 2 nos. of hot-swap power-supply, 2. Watt of each > fully configured and all components working requirements 3. Mention Efficiency Level			
13	**Server Certified for Operating System**	1. Windows Server Std. – 2012 2. Latest version of EAL-4 certified Ent. Linux			
14	**Form Factor**	Enclosing Form Factor: Max 1U Rack			

15	**RoHS, UL and FCC**	1. Compliance 2. Level of Compliance			
16	**Warranty**	5 years on-site, comprehensive (HW, Firmware, Antivirus SW – if any, system SW and utilities) from the date of installation certificate, signed by the user			
17.	**Operating System (Enterprise Category)**	1. LSB – 4.x or higher compatible 2. EAL4+ or higher certified (Publicly available certificate at https://www.commoncriteriaportal.org) OS with latest updates 3. Latest Linux Operating system (enterprise category) with all bundled utilities and application (PostgreSQL, MariaDB / MySQL, Apache Http, PHP, Java, Tomcat, Xen / KVM, Docker, GUI etc.) on DVD media 4. 5 (five) years comprehensive support on bug-fixes, updates and upgrades from the date of installation certificate, signed by the user			

MINIMUM SPECIFICATION OF FCoE SWITCH

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Quantity	01 (One) Nos.			
Make				
Model				
Part No.				

Sl. No.	Component / Performance / Utility for each Switch	Minimum Specification	Specification (Quoted / Applicable by the bidder)	Complied (Yes/No)	Remarks
1	**Hardware & Performance Requirements**				
1.1	Architecture	Modular architecture rack mountable Switch. Rack mount kit to be provided along with the switch			
1.2	Switch Redundancy	The Switch should have internal hotswappable Redundant Power Supplies			
1.3	Switching Fabric Capacity	The Switch should support a minimum of 512 Gbps of Switching Fabric Capacity.			

1.4	Switch Forwarding Rates (Layer 2)	The Switch should Support Minimum Switching (Layer 2) Performance of 320 Mpps.			
1.5	10G/Gigabit Ethernet and FC capability	The Switch should have a minimum 20 nos. of 10 Gigabit Ethernet FCoE ports including 4 nos of Ethernet 1000 base T configurable ports & 8 Nos. FC 8Gbps ports with all necessary interface modules & cables, licenses (if any)			
1.6	Ethernet fiber and copper ports	The switch should have support for fiber and copper gigabit ports also.			
1.7	10G Fiber Transceivers	Required multimode fiber Transceivers shall be proposed along with all the 10G ports.			
1.8	Capability	The Switch Should have capability for consolidating storage and traditional Ethernet protocols onto a single media			
1.9	Performance	Switch shall have cut-through, non-blocking switch architecture with line-rate forwarding on all the ports.			
2	**Connectivity & Filtering**				
2.1	802.3ad	Should support Industry Standard Port/Link Aggregation for All Ports			
2.2	Jumbo Frames	Jumbo Frames support on all ports			
2.3	Storm Control	Support for Unitcast/broadcast/multicast storm control to prevent degradation of switch performance from faulty end stations			
3	**Layer 2 Functionality**				
3.1	STP	Should Support Spanning Tree Protocol, Rapid Spanning Tree Protocol, Multiple Spanning Tree Protocol			
3.2	Features	Switch shall support Datacenter bridging exchange, IEEE 802.1Qbb priority flow control and IEEE 802.1Qaz.			
3.3	DNS, TFTP, NTP	Should support DNS, TFTP and NTP protocols, applicable IPv4 and IPv6 protocols			
3.4	Port-channel / Port Aggregation	Should have trunking capability.			
4	**Security Features**				
4.1	Access Control Lists	Should support Standard ACLs			
4.2	Various type of ACLs	Should support various type of ACLs like port based, Vlan based and time based			
4.3	MAC Address Filtering	Should Support MAC Address Filtering based on source and destination address			
6	**Quality of Service**				

6.1	CoS	Should support QoS and port-based CoS assignment			
7	**Multicasting**				
7.1	IGMP	a). Should Support IGMP v1, v2, v3 snooping			
8	**Management**				
8.1	Network monitoring/management	Switch should be manageable through NMS on per port/switch basis with common interface for all manageable devices on the network. Should Support syslog, SNMP v2/v2c/v3, RMON/RMON-II, SSH, telnet, web management through network management software.			
8.2	Port Mirroring	Should support port mirroring feature for monitoring network traffic of a particular port/VLAN/group of ports/ fiber-channel ports.			
8.3	AAA	Should have support for Authentication, authorization, and accounting (AAA)			
8.4	Monitoring	The switch should have real-time performance monitoring capabilities built-in.			
9	**Software**				
9.1	Software Version	Version of software for supplied switch should be latest release to support all required features			
10	**IEEE Standards Compliance**				
10.1	IEEE Standards	Ethernet: IEEE 802.3, 10BASE-T			
		Gigabit Ethernet: IEEE 802.3z, 1000BASE-X (mini-GBIC/SFP), 1000BASE-SX, 1000BASE-LX/LH			
		10G Ethernet: IEEE 802.3ae, 10GBase-SR, 10GBase-LR			
		IEEE 802.1D Spanning-Tree Protocol			
		IEEE 802.1S & 1W for Rapid Spanning tree convergence			
		IEEE 802.1p CoS Prioritization			
		IEEE 802.3x Flow Control			
		IEEE 802.3ad Link Aggregation			

MINIMUM SPECIFICATION OF STORAGE DEVICE

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Quantity :	01 (One)
Make:	

	Model:				
	Part No.				
Sl. No.	Component / Performance / Utility for each Storage	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remarks
0	Protocol	1. FCoE, 2. FC, 3. iSCSI, 4. NAS-NFS SMB /CIFS etc. 5. NDMP			
1	Interfaces	Minimum 1. Configurable FCoE 10 Gbps or FC 8 Gbps higher ports >= 4 2. iSCSI 10 Gbps >= 4 4. Device lanes >= 8			
2	Each Controller	a) Active -Active configuration using min. two controllers b) Each controller With capability of RAID - 1, 5, 6 & 10			
3.	Memory	32 GB usable Read/Write DRAM cache in storage system with host servers having direct access to the total cache for Data.			
4	Min nos. of Disks	a) Min. 150 disks (SAS-2, NL-SAS or equiv) scalability with SLC / MLC SDD adaptability b) LUN / partition supported >= 256			
5	Nos. of Disks and RPM	a) 400 GB usable after RAID-1 using 200GB SSDs for storage tiering purpose b) 10 TB useable capacity (sets of 5D + 1P disks in RADID-5 array) using maximum 600 GB, and minimum 15K rpm, dual ported SAS-2 disks. c) Any disks required for storage system OS etc should be provided additionally d) Storage must be provided with data encryption for the entire capacity for security of data			
6	Additional Disks & Capacity	10 TB useable capacity (sets of 5D + 1P disks in RAID-5 array) using 2TB, 7.2K rpm, 6 Gbps SAS interface of dual ported NL-SAS/MDL-SAS / equiv. disk.			
7	Power, Cooling & Host Connectivity	Power supply & Fans : a) Redundant b) Hot-swap **Host Connectivity**			
8	Mandatory features to be provided	a) No single point of failure architecture. b) Clone copy / Incremantal clone copy c) Point-in-time pointer based copy d) Thin provisioning and Storage Management software to be offered for full scalable capacity of the storage			
9		a) Automated data tiering for both read & write data to move sub-LUN data blocks between solid state disks & spinning disks within Production disks based on activity level.			

		b) It should be possible to span a volume and stripe data across all controllers / nodes for the maximum scalability configuration			
		c) All features mentioned in points 7 & 8 should be provided / supported (as specified above) for the proposed configuration and up to minimum scalability asked for			

MINIMUM SPECIFICATION OF IP KVM SWITCH WITH MONITOR

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Quantity :		01 (One) Nos.			
Make:					
Model:					
Part No.					
Sl. No.	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remark
1		1 (One) remote console and 1 (one) local console control up to 16 computers			
2		1(One) local and one remote user can simultaneously control separate ports			
3		User can access Servers via the LAN, WAN, or Internet			
4		Extra console port for connecting monitor, PS/2 keyboard, and PS/2 mouse			
5		LCD monitor can be slides independently of the Keyboard /touchpad			
6		Console lock facility which enables the console drawer to remain securely locked away in position when not in use			
7		upport Up to 64 user accounts			
8		Should have a feature to view all 16 ports at the same time.			
9		Three level login security: ●Administrator ●User ●Select			
10		Support advanced security features include password protection and advanced encryption technologies - 1024 bit RSA, 256 bit AES, 56 bit DES, and 128 bit SSL			
11		It can be flash firmware upgradeable over network connection			
12		Support: Windows 2012, Linux,			
13		Computer can be selected via front panel pushbuttons, hotkeys or On Screen Display (OSD).			
14		Rack mountable in 19" (1U) system rack.			

Sl. No.		Minimum Specification			
15		Superior video quality: 17" LCD - up to 1280 x 1024@75Hz; DDC2B Remote - up to 1920 x 1440; DDC2B			
16		It should have a facility to Auto Scan function to monitor computer operation.			

Minimum Specification of Backup Software

Quantity :	01 (One) Nos.			
Make:				
Model:				
Part No.				

Sl. No.	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remark
1		Should be available on various OS platforms such as Windows, Linux and UNIX platforms and be capable of supporting backup/ restores from various platforms including Windows, UNIX, HP-UX, IBM AIX, Linux. Both Server and Client software should be capable of running on all these platforms.			
2		Ability to backup data from one server platform and restore it from another server platform to eliminate dependence on a particular machine and for disaster recovery purposes.			
3		Should support various level of backups including full, incremental, differential, synthetic and virtual synthetic backups			
4		The backup software should be able to encrypt the backed up data using 256-bit AES encryption on the backup client and should not demand for additional license, any such license if needed should be quoted for the total number of backup clients asked for.			
5		Should be able to recover data using wizard based recovery, backed up by existing backup software to proposed backup appliance and replicated to Near site and DR site.			
6		Should have single pane of glass management for backup software and proposed backup appliance			
7		Should support parallel save streams for Unix, Linux and windows systems to achieve parallelism till the end of the backup, enabling backups to complete much quicker than standard scripted solutions			
8		Must support wizard-driven configuration and modifications for backups and devices			
9		Should have firewall support and single management pane to manage backup/restores and all backup target storage devices.			
10		Must support de-duplicated backup and recovery for Microsoft Hyper-V using VSS at the host to protect both the host and guest.			

11		Should able to break up large save sets into smaller save sets to be backed up in parallel to allow backups to complete faster for Unix and Linux clients			
12		Should have in-built calendar based scheduling system and also support check-point restart able backups to preserve the integrity of the backup window			
13		Should have integrated snapshot management for existing and proposed storage arrays from end-to-end within the backup software including configuration of snapshot backup to recovery.			
14		Should support block based backup for Windows systems to speed up the backup of workloads such as high density file systems or very large files.			
15		Should support immediate clone controlled replication to enable replication to begin as soon as a saveset as part of a group has finished.			
16		The Backup software should have the ability to report inactive files, which will help the customer decide what to backup/archive.			
17		Should support backups for clustered servers and support industry popular clusters like Sun cluster, Tru 64, HP service guar, HACMP i.e. should have the ability to backup data from clustered servers from the virtual client.			
18		The software should support virtual platform like VMWare, Citrix Xen Server and Hyper V, licensing of such environments should be based on physical hosts not on the number of virtual instances.			
19		Must support backup / recovery of raw SCSI volumes			
20		Licensing of the software should not to be dependent on the number of CPUs of the client machines.			
21		Should support advanced backup to disk backups where backups and restores from the backup media (disk in this case) can be done simultaneously.			
22		The solution must support client-direct backup feature to reduce extra hop for backup data at backup/media server to cater stringent backup window			
23		Backup clients should be updated automatically using the client push feature			
24		Should integrate with third party VTL which has data deduplication capabilities.			
25		Should be able to restore data already backed up to tape media.			
26		License for Backup Software to be quoted (either source capacity based or host based) which adequately suffice the requirement in totality			

Sl. No.	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remark
27		Should support online backup Agent/Modules for Databases such as MS SQL, Oracle, Exchange (DAG), Lotus, DB2, Informix, Sybase, MySQL, SAP, PostgreSQL and should be per host and not dependent on number of CPUs			
28		Must support Hardware and storage array based snapshot backup for off host zero downtime and zero load on the primary backup client.			
29		Must support bandwidth optimize open storage technology for backup to purpose built backup appliances for optimum utilization of network bandwidth during backup			
30		Should have bare metal recovery from physical servers to both Hyper-V and VMware vSphere virtual machines for Windows 8.1, Windows 2008 and Windows 2012			
31		Should support centralized proxy-based image backup with load-balancing, multi-streaming and change block tracking			
32		The backup software should support data movement directly from the backup client to the disk target without passing through the backup server.			
33		Backup Solution must support multi tenancy feature for creation of distinct data zones where the end users have access without being able to view data, backups, recoveries, or modify in other data zones.			
34		The proposed solution should have inbuilt feature for extensive alerting and reporting with pre-configured and customizable formats.			
35		The proposed solution must have capability to do trend analysis for capacity planning of backup environment not limiting to Backup Application/Clients, Virtual Environment, Replication etc.			

Minimum Specification of Backup Tape Library

Quantity :		01 (One) Nos.			
Make:					
Model:					
Part No.					
Sl. No.	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remark
1		Proposed disk based backup appliance should be able to interface with various industry leading server platforms and operating systems.			
2		Must support LAN/SAN based D2D backup and VTL backup simultaneously via NFS v3, CIFS, FC and NDMP protocols			

3		Must support global and inline data duplication using variable block length deduplication technology.			
4		Must support industry leading backup software like EMC Networker, Symantec NetBackup, CommVault and HP Data Protector etc.			
5		Should Support deduplication at backup server/ host level so that only changed blocks travel through network to backup device.			
6		Must have the ability to perform different backup or restore jobs simultaneously.			
7		Must support single management pane for backup software and multiple backup devices for ease of management.			
8		Must supports communications and data transfers through 8GB or 16 GB SAN, 10 Gb & 1 Gb Ethernet LAN over copper and SFP+			
9		Must be configured with 4x8Gbps or 2x16Gbps FC ports and 4x10Gbps Ethernet ports			
10		Should support capacity on demand feature that allows the storage allocation associated with a virtual tape cartridge to be consumed upon write and not creation.			
11		Should support backup throughput of 8-10TB/hr or more for data deduplication at backup storage and 16-20TB/hr or more for client side deduplication with configured capacity. Backup throughput should not be dependent on number of nodes/disks.			
12		Should be configured to protect 10TB of usable source data as per below policy. Backup appliance capacity should be sized with below considerations for retention period: (a) Daily incremental backup retain for a week (b) Weekly full backup retained for 4 weeks (c) Monthly full backup retained for 3 months (d) Quarterly full backup retained for 4 quarters (e) Yearly full backup retained for 5 years			
13		Should have capability for tape out data for long term retention (beyond 3 months), if necessary.			
14		Should support hardware upgrade without the requirement of data migration from existing backup storage.			
15		Must support 50 virtual tape libraries, 270 virtual drives, 50,000 slots & 1,00,000 virtual tapes or more			
16		Should support different retentions for primary and DR backup storage			
17		Must be configured with deduplicated and encrypted replication of data over Local or Wide Area Networks			

18		Must support selective replication to sub share level replication with bandwidth throttling for optimum utilization of the WAN bandwidth			
19		Must support simultaneous replication process while backup is running			
20		Replication Should support bi-directional, many-to-one, one-to-many, and one-to-one replication			
21		Should support Link Aggregation Control Protocol (LACP) and VLAN tagging			
22		Should support IP Aliasing, Ethernet failover and aggregation			
23		Should support 256 bit AES encryption for data at rest and data-in-flight during replication.			
24		Should support retention lock feature which ensures that no data is deleted accidently.			
25		Should be configured with minimum of 10 TB usable capacity in RAID 6 technologies with 2TB/3TB disk drives on SATA/SAS technology, scalable to 150TB of Usable capacity			
26		Should have SNMP and command line support.			
27		Must support data compression using lz, gz or gzfast			
28		Must have scheduled file system check to ensure data integrity.			
29		Must have protection against loss of data in power fail and software crashes incidents.			
30		Must support point-in-time copies of a LUN or volumes with minimal performance impact.			
31		Should support auto-support remote health check for OEM to monitor the system health.			
32		Bidder need to provide all required licenses to integrate the proposed backup appliance			
33		Should support different retentions for primary and DR backup storage.			
34		The Appliance should have snap-shot capabilities for self protection			
35		Should support auto support remote health check for OEM to monitor the system health.			

MINIMUM SPECIFICATION OF 42U RACK

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Quantity :	01 (One) Nos.

	Make:				
	Model:				
	Part No.				
Sl. No.	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Complied (Yes / No)	Remark
1	Material	The frame should be made of heavy duty, heavy grade aluminum profiles designed to accept front and rear doors and side panels, which close within the frame itself. The Racks shall be of CKD (Complete Knock Down) design for easy accessibility at site as and when required			
2	Size (Width)	600mm			
3	Height	42U			
4	Depth	1000mm			
5	Mounting Angle	Two Pairs of 19" Mounting Angles with U marking			
6	Doors	Front and Rear perforated door with hexagonal perforation for better air movement across the Rack. The rack front door to have locking system			
7	Top & Bottom Cover	Top cover and Bottom panels with cable entry facilities. Cable entry cut out			
8	Equipment cooling	a) Each rack should be compatible with floor- throw as well as top-throw Data centre cooling system. b) Rack should have IP based temperature and humidity monitoring facility.			
9	Floor Standing accessories	All Floor Mounting accessories required to set up the rack. Castors with foot brakes			
10	Earthing	Enclosures shall be bonded to the protective earth system or communications earth system (CES) using a minimum 2.5 sq mm conductor.			
11	Color & Powder Coating	Color should be Black. Rack to be powder coated with Nano ceramic pre-treatment process using a zirconium coat. Powder coating thickness shall be 80 to 100 microns. The Powder coating process should be ROHS compliant			
12	Load Rating	Minimum 550 Kg			
13	Standard	DIN 41494 Standard			
14	ISO Certification	Rack manufacturer have ISO 9001-2008 and ISO 14001-2004 certification and certificates needed to be submitted with technical compliance			
15	Site Specific Parameters	Power cords and connectors, fixtures are to be compatible with the environment / site			

SYSTEMS INTEGRATION WORK

For the Core ICT Infrastructure at the Calcutta High Court, Kolkata

Sl. No.	Component / Performance / Utility	Minimum Specification	Complied (Yes/ No)
	Bidder should undertake the following and related activities :		
1.	Policies & Guidelines	Policies & Guideline and implementations there from in the department for (1) Application Service, (2) DB service, (3) Backup service (as applicable), (4) Storage Service (5) Security Service, (6) OS security, (7) Application Server security, (8) RDBMS security, (9) System Admin, (10) AS Admin, (11) DB Admin, (12) DC-DR synchronization (13) and other related components/ work	
2.	Integration plan & design for service provisioning	(1) DB servers, (2) AS servers, (3) FCoE Switch, (4) Ethernet Switch (as applicable), (5) Storage device component (6) Security devices (7) LAN integration (8) Load Balance & Fail-over Plan for Design, Tests & Acceptance with Test Application, & Test DB (9) Other related components/work	
3.	Installation & Implementation of, DB Server HW, AS Server HW, FCoE Switch , Storage component , Security Device, Ethernet Switch (as applicable), OS with Database	HW, SW & Services with all operational sub-components with OS, Web Service Software, AS, DB, SMS, Backup , Security Device as per design & policy doc on EAL-4+ , LSB-4.x, certified OS and other related components / job.	
4.	LAN supply & works with integration to existing network	All passive components, test & certification for 10 years as per design & policy doc and EIA/TIA-942 & EIA/TIA-568-B.l & B.2 etc and other related components / job	
5.	Integration test & Certification	(1) DB servers, (2) AS servers, (3) FCoE Switch, (4) FCoE & Ethernet (as applicable) Switch, (6) Storage component (7) Security devices, (8) LAN integration (9) Load Balance & Fail-over Plan for Design, Tests & Acceptance with Test Web Services, Application, & Test DB and other related components /job.	
6.	AS, DB, & all HW & System Software Services installation, implementation with go-live certification	(1) DB Server, (2) Application Server (3) backup service – as applicable, (4) Storage component, (5) client accessibility with all operations on (i) Load Balance & (ii) Fail-over mode with implementation all security feature and other related components/job	

Authorized Signatory (Signature In full): _____

Name and title of Signatory: _____

Stamp of the Company: _____