Corrigendum with regard to the Tender for Purchase of IT equipments and software licenses for setting-up of Data Centre / Server Room for Punjab Land Records Society

Sr. No.	Description	Clarification
11	Section I, point 8.d, page 6	Last date and time for submission of completed Bid is **14.03.2011 at 4:00 pm** **Punjab Land Records Society (PLRS)** **O/o Director land Records, Punjab** **Kapurthala Road, Jalandhar, Punjab.**
12	Section I, point 8.e, page 6	Place, date and time for opening of pre-qualification Bids is **15.03.2011 at 10:30 am** **Committee room, 4th floor.** **Mini secretariat.** **Sector-9** **Chandigarh.**
3	Section IV, clause 1.1, page 17	1. The title of Table 1 : must be read as "Hardware and Software items" 2. The item no 3, 10 and 11 of Table 1 i.e (Antivirus server base (forefront client security subscription based), web server connector windows 2008 R2 External Connector, Firewall server Forefront Treat Management Gateway 2010 enterprise Edition) are Software items. 3. Item no 6 (SAN Switch) of table 1 is **deleted.**
1	Section III, Clause 3 ---Installation Period, page 12	Supply and installation period would be **8 weeks (instead of 6 weeks)** from the date of signing / award of contract.
2	Section IV, clause 1.1, page 17 And Section IV, Clause 1.25, page 19	As regards, deployment and maintenance of application software it is clarified that the first time installation and deployment of the application software will be done by PLRS with guidance of MCS. This installation does not include the other infrastructural set ups like Load balancer, SQL clustering, windows clustering etc. The manpower to be deployed by the turnkey solution provider should desirably have adequate knowledge of Reporting Services, Deployment knowledge, Asp.net technologies.
4	Section IV, Clause 1.3, page 17 – Existing Items (Table-3)	Table 3 , should be read as per annexure A of this corrigendum
8	Section IV , Clause 1.9 page 19	It is clarified that apart from physical space PLRS would provide AC(s) for cooling, DG set and raw power. It is further clarified that remaining all the electrical requirements related to running of the IT equipment would have to be provisioned by the turnkey solution provider which shall include proper earthing, wiring, power panel, electrical sockets/ points, MCBs etc.
	Section IV , Clause 1.12 page 19	As regards provisioning of furniture, it is clarified that furniture requirement would only be for the staff that would be deployed by the turnkey solution provider.
7	Section IV , Clause 1.13 page 19	The clause is amended as per the following "The successful bidder must ensure regular backup on the storage."
9	Section IV , Clause 1.21 and 1.22 page 19	These clauses are **deleted.**
6	Section IV , Clause 2 , page 20	The detailed technical specifications are amended as

		per the Annexure B
13	Performa-V PRICE SCHEDULE (In Rs.)- Part II, page 38	Sr. no 6 has been **deleted.**
10	Service level requirement, page 41, point srno 5 regarding SDC server availability including OS, database , application running on.	As regards the target >=99% , the PLRS will allow 5 days for re-installation in case of complete system disaster.

Annexure A

EXISTING items:

Sr no	Description	Item
1	SERVERS – Management & other Applications a. Domain Controller b. Firewall server c. Ftp server	3
2	UPS (POWER)	1
3	SQL Server 2008 R2 Standard Edition Processor Based OLP	2
4	Windows Server 2008 R2 Enterprise Edition OLP	2
5	Windows 2008 R2 External Connector	1
6	Forefront Treat Management Gateway 2010 Enterprise Edition	1

Annexure B

Detailed technical specifications.

A. SERVERS

Blade Servers - Database	
CPU	Configured with 4 * Intel X7540 processor & scalable to four or more processor on same chipset with in the box.
Memory	Server should be supplied with 32 GB memory and scalable to 144 GB or higher Should support Advanced memory protection technologies like AECC, memory mirroring and memory lockstep mode.
HDD	Should be configured with 2 x 146GB @ 15k rpm SAS or SSD drives. Storage controller capable of providing RAID 0, 1 configurations
Expansion Slots / Ports	Should have a minimum of 2 PCIe based slot and simultaneously host interconnects of Ethernet,FC fabrics. Server to provide two network GB ports for connectivity to Ethernet switch. Dual FC HBA card for connectivity with storage
Management	Should provide remote management software capable of providing graphical interface, virtual media and multi-factor authentication. Server management software should be of the same brand as the supplier. Server management software capable of providing role-based security, alerts of critical component failure (Hard drive, memory, CPU) and notify the same using email, pager, SMS.
Blade Servers – CLR Applications	
CPU	Server class chipset 5600 Series processors to be configured with two 2.4 GHz, 80W - Quad-core 2 processor.
Memory	Server should be supplied with 32 GB memory and scalable to 144 GB or higher. The server should provide Twelve (12) DDR3 Registered or Unbuffered DIMM Memory Slots.
HDD	Should be configured with 2 x 146GB @ 15k rpm SAS drives. The internal storage should be configured in RAID 1 for OS. Hard drives to be hot-pluggable and of small form factor. Storage controller capable of providing RAID 0, 1

	configurations
Expansion Slots / Ports	Should have a minimum of 2 PCIe based slot and simultaneously host interconnects of Ethernet,FC fabrics. Server to provide two network GB ports for connectivity to Ethernet switch. Dual FC HBA card for connectivity with storage
Management	Should provide remote management software capable of providing graphical interface, virtual media and multi-factor authentication. Server management software should be of the same brand as the supplier. Server management software capable of providing role-based security, alerts of critical component failure (Hard drive, memory, CPU) and notify the same using email, SMS.
Cabinet/Chassis for Blade Servers with following configuration	
Chassis	Support for full height and half height blades in the same enclosure holding upto 10 Intel Xeon Servers Same enclosure should support Intel Xeon/AMD Opteron based. Blades Same enclosure should support server, storage and expansion blades to enable consolidation of hardware Should support simultaneous housing of Ethernet, FC, iSCSI interconnect fabrics offering Hot Pluggable & Redundancy as a feature for the mentioned I/O devices
Ethernet Switch	1 G Ethernet Switching Modules to be provided in redundant configuration for Connecting to all the blade servers to external Switch. Configuration should help minimize the Ethernet Cables
SAN Switch	SAN Switching Modules to be provided in redundant configuration for Connecting to all the blade servers to external Switch. Configuration should help minimize the SAN Cables.
Management Module	System Management Port to allow simultaneous management access of multiple Blade Servers in the Chassis. GUI, console-based deployment server to set up multiple OS and application configurations. It should provide KVM functionalities and access for all the server blades from the management module.

Power Modules	The enclosure should be populated fully with power supplies of the highest capacity available with the vendor. Power supplies should support N+N as well as N+1 redundancy configuration, where N is greater than 1. Should offer choice of a single phase or 3 phase power subsystem for flexibility in connecting to datacenter power enabled with technologies for lower power consumption Guaranteeing complete availability even on failure of any 2 power units across the enclosure.
Cooling	Each blade enclosure should have a cooling subsystem consisting of redundant hot pluggable fans or blowers enabled with technologies for improved power consumption and acoustics
Management Software	• Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Software should save the Reports for further analysis. • Should provision for a single console to monitor multiple enclosures • Should support simultaneous remote access for different servers in the enclosure • The management/controlling software's must be from the OEM itself • Management Software Licenses for a fully populated Blade Enclosure should be given • The software should provide Role-based (admin, user, operator, etc) security which allows effective delegation of management responsibilities by giving systems administrator's granular control. • The management software should provide proactive notification of actual or impending component failure alerts. • Should support automatic event handling that allows notification of failures via e-mail. • Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Software should save the Reports in some format for further analysis. • Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components. • The server performance monitoring software should be able to detect, analyzes, and explain hardware bottlenecks. Also it should be able to log the data over time and allow it to replay the same in a short time frame for performance analysis. • The Deployment software should provide for User friendly GUI/ console-based deployment to set up and install multiple OS and application configurations in individual blade server.

| | • The blade system should have the capability of managing all the blades in the Enclosures simultaneously capable of monitoring both physical and virtualized environments with single signon capability for all devices in the enclosure |

a. SAN STORAGE

Robust storage (Storage Area Network) equipment shall be installed in the data centre /Server Room for online storage of the data. The detailed specification is as follows:

Operating System & Clustering Support	1. The storage array should support industry-leading Operating System platforms including: *Windows Server 2003, 2008*, Vmware, Sun Solaris, HP-UX, IBM-AIX and Linux. 2. Offered Storage Shall support all above operating systems in Clustering.
Capacity & Scalability	The Storage Array shall be offered with 5TB usable RAID 5 Capacity using 300GB/600GB FC drives.
Processing Power	It should SAN functionality built in.
Architecture & Processing Power	1. The storage array should support dual, redundant, hot-pluggable, active-active array controllers for high performance and reliability. 2. Storage Array shall have purpose built Operating system to avoid frequent Firmware upgrades and shall not be based on General purpose operating system. 3. Storage Array shall have Switched Architecture for Disk drive connectivity. 4. Controllers shall be true active-active so that a single Logical unit can be shared by both controllers at the same time
No Single point of Failure	1. Offered Storage Array shall be configurable in a No Single Point of configuration including Array Controller card, Cache memory, FAN, Power supply etc. 2. For high availability and performance, bidder shall ensure that each and every drive shelf is being controlled through at-least 2 back-end controller ports.
Disk Drive Support	Offered Storage Array shall support 4Gbps dual-ported 146/ 300 / 400 / 450GB / 600GB hot-pluggable Enterprise FC hard drives, along with S-ATA/F-ATA (1TB) drives.
Cache	1. Offered Storage Array shall be given with Minimum of 4 GB cache in a single unit.

	2. Cache shall be used only for data and control information. Cache shall not be loaded for the OS overhead. 3. Cache shall be dynamically managed for Read and Write operations. 4. Shall have dynamic management of Cache block size.
Raid Support	1. Offered Storage Subsystem shall support Raid 0/ 1 / 1+0/ 5/ Raid 6. 2. Storage subsystem shall support expansion of both Disk group and raid group dynamically at both storage and Host level as per defined policies.
Data Protection	Incase of Power failure, Storage array shall be able to hold data in the cache for at-least 24 hours of time or destage to disk drives. Bidders shall ensure that in case of de-stanging, dual redundant Standby power supplies are configured, For optimal data protection, storage shall support distribution of metadata on more than one drive shelf.
Host Ports & Back-end Ports	Offered Storage shall have 8 Ports (minimum of 4 FC ports) for connectivity to servers & minimum of 2 Backend ports for Disk shelf connectivity.
Ports Bandwidth	Offered storage shall be end to end 4Gbps where each drive and drive shelf shall be connected through dual active-active paths.
Global Hot Spare	1. Offered Storage Array shall support distributed Global hot Spare for offered Disk drives. 2. Atleast 2 Global hot spare drive shall be configured for every 50 drives.
Load Balancing & Muti-path	Multi-path and load balancing software shall be provided, if vendor does not support MPIO functionality of Operating system.
Maintenance	Offered storage shall support online non-disruptive firmware upgrade for both Controller and disk drives.
Business Copy	1. Shall support minimum 8 snapshots and 8 clones per volume. 2. Shall be able to create business copy on different raid set as compared to Production volume. 3. Shall be able to create Clone operation on low performance SATA / FATA drives.
Storage Array Configuration & Management Software	1. Vendor shall provide Storage Array configuration and Management software. 2. Software shall be able to manage more than one array of same family.
Performance Management	Vendor shall also offer the performance management

	software for Storage Array.
Remote Replication	1. Storage shall support both Synchronous and Asynchronous replication at controller level. 2. Shall support replication across all models of the offered family.

b. SWITCH

Specifications
Product/Performance Specifications
(24) Port 10/100Mbps plus (2) Port 10/100/1000Mbps
MAC Address Table Size • 8,000
Switch Fabric • 8.8Gbps Capacity
• Per port: Link/Activity, 100Mbps (Ports 1-24)
Link/Activity, 1000Mbps (Ports 25-26)
RJ-45 • 10BASE-T, 100BASE-TX & 1000BASE-TX
Network Protocol and Standards
IEEE • 802.3 Ethernet, 802.3u Fast Ethernet, 802.3ab Gigabit Ethernet, 802.3x Flow Control, 802.1p QoS
Managed Layer 2 Switch with (24) Port 10/100Mbps plus (2) Ports 10/100/1000Mbps

c. POWER

On-Line UPS with isolation transformer suitable for Three Phase AC Input and Three Phase AC Output , Floor Mounted Type. Rating of UPS: 10 KVA, Back-up time : 240 minutes with Exide/Panasonic/Amar Raja/Global/Rocket Base.

d. SERVER / NETWORK RACKS

Rack enclosure systems shall be most flexible and can easily be reconfigured – keeping pace with your changing needs. And, given that the technology refresh rate for IT (server and networking) equipment is typically 12-18 months, this underscores the importance of choosing a scalable enclosure platform.

Technology compaction is forcing more and more equipment into less and less space resulting in higher heat generation inside an enclosure, which underscores the importance of having advance cooling with extra perforation at front & rear doors.

E. KVM SWITCH for existing servers:

A KVM switch with minimum 8 RJ45 ports with cables of the Servers.

S/No.	Specifications for Server Racks
	SUMMARY
	General Specifications.
	The unit shall be designed to provide a secure, managed environment for server and networking equipment.
	The unit shall conform to EIA-310 Standard or Indian equivalent
	The unit shall be available with a vertical equipment mounting space of 42U or (1U=1.75" or 44.45mm).
	Physical Specifications
	The unit shall have 42U height with minimum 1000 depth. Width Shall be adjustable between 600MM to 750mm.
	The 42U and units shall support a static load of 1000KG.
	The front door of unit may be open from one side.
	The units shall have 3/2 perforated front door, perforated split rear doors, and removable side panels
	All racks shall have IP20 protection and shall be inherently earthed or grounded directly to the frame.
	The unit shall provide adequate ventilation to provide airflow required by the major server manufacturers.
	The unit shall have clearance for wiring access of at least 3" between the inside surface of the front door and front mounting face of the vertical mounting rails.
	The unit shall have clearance for wiring access of at least 1.5" between the side panel and the vertical mounting rails.
	The unit shall include front door lock, rear door lock and side panel lock that are keyed the same
	The unit shall have mounting provisions for optional door alarm switch to monitor access to the enclosure doors.

Instructions: Please attach the specification, make, model and other technical details of the product(s) in technical bid envelope. The minimum indicative specifications are given above.

<u>Note</u>

➢ The client reserves the right to vary the quantity of the equipment at the time of awarding the contract.