



एचएलएल लाइफ़केयर लिमिटेड  
(भारत सरकार का उद्यम)

HLL/CHO/IT/DC/2016

Dated 09<sup>th</sup> November 2016

**Amendment No.1**

Dear Sir,

**Sub: Supply and Installation of Server Racks with Inrack Cooling System and other Datacenter Accessories**

**Ref: Our Enquiry No.: HLL/CHO/IT/DC/2016, Dated 26<sup>th</sup> October 2016**

With respect to the above subject and reference, the revised Technical Specifications is attached as **Annexure-1** and the last date of submission of bids is also extended as given below.

SI.No	Events	Amended dates
1	Last date for submission of Bids	14.11.2016 15.00 Hrs.
2	Opening of Technical Bids	14.11.2016 15:30 Hrs.

All other terms and conditions will remain same.

**L. Ajithkumar**  
**Associate Vice President (IT)**

## Technical Specifications

## Annexure-1

Sl.No.	Requirement	Specifications	Qty
1	Server Racks	<p><b><u>High Performance Closed Loop Cooling Racks</u></b>  <b><u>General Specifications</u></b></p> <ul style="list-style-type: none"> <li>• The Racks will be used to mount and house all Servers and Network / Storage devices in the datacenter.</li> <li>• The Rack has to be designed in such a way to meet the safety requirements of the modern datacenter.</li> <li>• Both the front and rear door should have a handle with locking options.</li> <li>• The rack should be suitable for a high performance cooling.</li> <li>• Cable entry should be through the roof plate and the gland plate without affecting the climatic conditions inside the rack.</li> </ul> <p><b><u>Technical Specifications</u></b></p> <ul style="list-style-type: none"> <li>• Basic Structure: Made of sturdy steel frame section, consisting of multi folded frame section punched in 25mm DIN pitch pattern.</li> <li>• All profile edges should be radiused. The corners are welded with copper coated corner blocks.</li> <li>• Removable Top &amp; Bottom cover with cable entry provision.</li> <li>• Frames should be bayable, scalable and modular.</li> <li>• Server Rack 800 Width X 2000 Height (42U) X 1200 Depth</li> <li>• Fitted with Front Glass door &amp; Rear Sheet Steel Double Door with 4 point locking system and comfort handle with locking.</li> <li>• Rack design should support closed loop high performance cooling.</li> <li>• The door should be inter-changeable at site, at any point of time.</li> <li>• Side panel should be with PU gasket with screw fixing to avoid air leakage.</li> <li>• Side panel required only at the end of the row, on each side.</li> <li>• 19" angles at front and back side of the rack.</li> <li>• Top and Bottom covers with slide able cable entry provision.</li> <li>• Blanking Panel 1 U RAL 7035: 10 Nos. per Rack.</li> <li>• Baying kit: 1 No. per Rack</li> <li>• Metal Shunting Rings(90mm x 60mm) : 2 Nos per Rack</li> <li>• Horizontal Earthing Busbar (Minimum 20 points for earth connection) per Rack.</li> <li>• Hardware pack of 20 (Minimum 5 packs. per rack)</li> <li>• Horizontal PDU with minimum 6 Nos of 5A sockets with 1.8 M Power chord with IEC C14 plug : 1 No. per Rack</li> <li>• Racks should be ISO 9001, 14001, 18001 certified.</li> <li>• Racks should be complied with EIA 310, DIN 41494 and IEC 297 standards.</li> <li>• Minimum load bearing capacity: 1400KG at Frame &amp; 1000 KGs on 19" mounting angles.</li> <li>• Surface Finish: Nano Ceramic Coated, electro-dip coat primed to 20 microns and powder coated with textured polyester RAL 7035 to 80 to 120 microns</li> </ul>	3 Nos.

<p style="text-align: center;">2</p>	<p style="text-align: center;"><b>Closed Loop Rack based cooling system (3 TR)</b></p>	<p><b><u>Closed Loop Rack based cooling system (3 TR) - (N+1 Redundancy).</u></b>  <b><u>General Specifications:</u></b></p> <ul style="list-style-type: none"> <li>• IT Optimised design, providing ideal support for “front-to-back” air routing for the 482.6 mm (19”) installations.</li> <li>• The integrated air/refrigerant heat exchanger should guarantee a cooling output of 12 kW with standard server enclosure dimensions and comprehensive possibilities for monitoring.</li> <li>• The Cooling Unit should be mounted on the side of the racks</li> <li>• The warm server air is drawn in directly from the rear of the rack and the cooled air is blown back in front of the 19” equipment level from the side, over the whole height of the enclosure.</li> <li>• The Cooling Unit should be closed up to the server rack at the front and rear and should form a flush joint with the rack.</li> <li>• Each cooling unit should be equipped with a minimum of four Electronically Commutated (EC) fans.</li> <li>• The cooling unit and the server rack remain separate from each other.</li> <li>• The fans should be hot swappable at any time.</li> <li>• The fans should be installed in the cold air section.</li> <li>• Condensate management should be integrated into the unit.</li> <li>• The cooling unit should have integrated controller to operate fully autonomously.</li> <li>• Monitoring and alarm management for all physical parameters should be realised via SNMP over Ethernet.</li> <li>• A display with operating keys should be integrated on the front of the unit to display and set the physical parameters.</li> </ul> <p><b><u>Technical Specifications:</u></b></p> <ul style="list-style-type: none"> <li>• Useful cooling output: 12 kW at 30 °C ambient temperature and 10 kW at 45 °C ambient temperature at place of installation of the condenser</li> <li>• Installed fans: Minimum 4 Nos.</li> <li>• Minimum Air throughput: 5,000 m<sup>3</sup>/h</li> <li>• Intake temperature, set: 22 °C</li> <li>• Connection, liquid side: 12 mm, external thread</li> <li>• Connection, gas intake side: 12 mm, external thread</li> <li>• Power supply: 400 V, NPE, 50/ 60 Hz</li> <li>• voltage range 380-460 V</li> <li>• Maximum Connected load: 4,700 W</li> <li>• Refrigerant: R410a</li> </ul> <p><b><u>Accessories:</u></b></p> <ul style="list-style-type: none"> <li>• SNMP card for network connection</li> <li>• External condenser</li> </ul>	<p style="text-align: center;">2 Nos.</p>
<p style="text-align: center;">3</p>	<p style="text-align: center;"><b>PDU (Power Distribution Unit)</b></p>	<p><u>PDU should be rack mountable without occupying space meant for servers and other IT equipment</u>  <b><u>Technical Specifications:</u></b></p> <ul style="list-style-type: none"> <li>• Rating : 32 A Single Phase</li> <li>• Should have a minimum of 19 Nos of C13 sockets and 4 Nos of C19 sockets.</li> <li>• Should have IP Based aggregated metering.</li> <li>• The power supply must be terminated with Nema Plug/Socket.</li> </ul>	<p style="text-align: center;">6 Nos (2 Nos. per Rack)</p>

4	<b>Monitoring Unit</b>	<p><b>General Specifications:</b></p> <ul style="list-style-type: none"> <li>The system should monitor all racks for temperature and humidity inside enclosure and room.</li> <li>A centralized processing unit should be there and capable of monitoring a maximum of 30 sensors.</li> <li>The Processing Unit should have TCP/IP connection to the data network via Ethernet, configured via Web / USB. The unit should send alarms via an e-mail server and connect to the Network Management System via SNMP/OPC.</li> <li>SMS alert should be integrated along with the system.</li> </ul> <p><b>Temperature / Humidity Sensor Specifications</b></p> <ul style="list-style-type: none"> <li>An electronic temperature sensor for sensor measurement in air flow should be integrated.</li> <li>An electronic humidity sensor for measuring the relative humidity in air flow should be integrated.</li> <li>Temperature Measuring range: + 0 °C to + 55 °C</li> <li>Humidity Measuring range: 5% to 95% relative humidity</li> </ul>	<b>1 Set</b>
5	<b>Rear Auto door Opening for Closed Loop Cooling System</b>	<ul style="list-style-type: none"> <li>All closed loop racks should be fitted with automatic rear door opening kit.</li> <li>Door should automatically open in case of Alarm on temperature.</li> <li>The auto door control unit should be connected on SNMP TCP/IP for monitoring and control.</li> </ul>	<b>3 Set</b>
6	<b>Fire Detection and Extinguisher System (Rack Based)</b>	<ul style="list-style-type: none"> <li>Rack Based Fire Detection and Extinguisher System with Novec 1230 Gas.</li> </ul>	<b>3 Nos (1 No. per Rack)</b>
7	<b>Other Accessories / Works</b>		
7.1	Additional Cable Trays	a. 100mm Wire Mesh type GI cable tray for network Cables b. 200mm Wire Mesh type GI cable tray for Electrical Cables	15 M 15 M
7.2	Electrical Cables	4 Sq.mm 3 Core Electrical cable	150 M
7.3	Electrical Plugs	CEE 32 A single phase plugs with mounting arrangements on electrical cable tray	10 Nos.
7.4	Painting Works	a. Fire Rated Painting inside Datacenter walls. b. Fire Rated Painting in the Datacenter ceiling.	90 Sq. M 20 Sq. M
7.5	Cable Management Box	Fire Rated Cable Management Box in the fire rated wall	20 Sq. M
7.6	IP Based Biometric Access Control System	IP Based Biometric Access Control System for Front Door of the Datacenter.	1 No.
7.7	Panic bar for Fire exit door	Panic bar for fire exit door.	1 No.
7.8	Surveillance Camera	IP based Surveillance Camera	4 Nos. (in each corner)
8	Installation & Commissioning Charges		