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From : Director, CSIR-National Physical Laboratory

No.   14-VI/MD(1086)2021PB/T-152   Dated :   09.03.2022

CORRIGENDUM

 With reference to NPL's Global Tender No. 14-VI/MD(1086)2021PB/T-152   for the procurement of "PTP Server". Kindly note the following extension in **date** of submission & date of opening of the said tender :-

> For : Due date & Time of tender submission
> **Read as : 30.03.2022 up to 03.00 PM (IST)**
>
> For : Date & Time of Tender Opening
> **Read as : 31.03.2022 from 3.00 PM (IST) onward**

 Apart from above, it is hereby informed that there are some changes in Technical Specification of said Tender also. Hence revised broad based Technical Specification after PBC is uploaded in CPP Portal. Accordingly, all the interested bidders may submit their offer accordingly.

 Please also note that bids submitted without taking these changes into consideration will be rejected summarily.

 All other terms & conditions will remain the same. The Corrigendum is also available on CSIR-NPL official website http:/www.nplindia.org under Tender link.

Sd/-

(Controller of Stores & Purchase)

Final Technical specifications of PTP server

Serial No. in the final approved list	19
Item	PTP Server
Quantity	17
Warranty	Standard Warranty for 5 Years
Point of Delivery	IDSN,ISTRAC, ISRO, Bangalore: 15 CSIR – NPL, New Delhi: 2

	Specifications
	The PTP server shall be offered with the following specifications:
1	**Reference Oscillator:** The PTP GM should have preferably high quality OCXO based oscillator as internal reference. Oscillator holdover accuracy: 1 day holdover better than +/-5 µs.
2	**Reference Input to Grand Master:** There will be 5 reference inputs: 3 separate ports BNC(F)/SMA(F); 50Ω: 1PPS, 10 MHz, IRIG-B 2 Ethernet ports (RJ45/SFP): NTP, PTP If SFP port, then please supply a x2 1Gbps copper SFP modules
2.1	The PTP GM should accept 10 MHz as a reference input.
2.2	The PTP GM should accept 1PPS as reference input.
2.3	The PTP GM should accept IRIG-B 50 ohm signal as reference input.
2.4	The PTP GM should accept NTP as reference input.
2.5	The PTP GM should accept PTP default profile and Telecom Profiles G.8265.1, G.8275.1, G.8275.2 as reference input.
2.6	Offered solution shall be configurable with following reference priorities 1) Pulse or Phase from PPS input and Time form PTP reference input 2) Pulse or Phase and Time from PTP reference input 3) Pulse or Phase from PPS input and Time from IRIG-B/NTP(when PTP reference input is unavailable)
3	**PTP Profile Support:**
3.1	The PTP Server should support IEEE 1588v2 Default Profile.
3.2	The PTP server should also support ITU-T G.8265.1 Telecom Frequency Profile

3.3	The PTP server should also support ITU-T G.8275.1 Telecom Phase / Time Profile
3.4	The PTP server should also support ITU-T G.8275.2 Telecom Phase / Time Profile
3.5	The PTP server should also support IEEE C.37.238 Power Profile& IEC 61850-9-3 utility profile
3.6	The PTP Modes of Operation:
3.7	The PTP server should support the layer2 Multicast / Unicast mode of operation.
3.8	The PTP server should support the layer3 Multicast / Unicast mode of operation.
3.9	The PTP server should also have Synchronous Ethernet - Master and Slave Capability. It should be compliant to ITU-T G.8261/G.8262/G.8264
4	**PTP capability:**
4.1	1-step and 2-step operation for both master and slave mode
5	**Network Protocols:**
5.1	IPv4, IPv6
5.2	DHCP, DHCPv6
5.3	DSCP
5.4	IEEE 802.1p & 802.1q VLAN filtering / tagging
5.5	Compatible with MPLS network characteristics
6	**Output interfaces:**
6.1	**1PPS Outputs:**
6.1.1	PTP GM should provide the realized 1PPS signal as output.
6.1.2	Should have atleast one 50 Ohm BNC connector for providing 1PPS output.
6.2	**10 MHz Output:**
6.2.1	PTP GM should provide the realized 10 MHz signal as output.
6.2.2	Should have atleast one 50 Ohm BNC connector for providing 10 MHz output.
6.3	**PTP Ports:**Offered solution shall have atleast 4 dedicated PTPoutput ports which shall be configured independently for various PTP profiles and other related parameters for simultaneous output operation.

6.3.1	PTP GM should have atleast 2 number of Ethernet ports with 1Gbps (RJ45) for providing PTP.
6.3.2	PTP GM should have atleast 2 number of Fiber optic 1 GBit SFP ports for providing PTP.
6.3.3	The vendor should provide suitable SFP modules as follows: x2 SFP 1Gbps copper modules and x2 SFP 1 Gbit optical module each for short and long haul (Total 6 SFP modules)
6.4	**SyncE Ports:**
6.4.1	The 4 output PTP ports shallprovide both SyncE and PTP packets simultaneously.
7	**No of Client Support:**
7.1	The PTP GM should support atleast 1000 unicast client requests/port (at 128 requests/s).
7.2	The PTP GM should serve atleast 100000 multicast clients request per sec/port.
8	Accuracy of realized 1PPS outputs better than +/-100 ns with respect to reference inputs
9	PTP hardware time stamping accuracy better than 15ns, when locked to external reference
10	**Form Factor:**
10.1	19'' Rack mountable
11	**Power:**
11.1	Unit shall accept dual AC/DC power supply and shall be capable of operating with single power supply. If the unit accepts DC power, suitable AC to DC adapters shall be offered along with the units. The AC input shall be as per Indian standards at 220V 50Hz. Required no of power cables (IEC-13/14 Power Cord 2 Meter) shall be offered with each unit.
11.2	The product offered should be an established product and should be in the market. The part number of the product should be mentioned.
11.3	The product should have management port for controlling various parameters and remote access.