



National Internet Exchange of India
9th Floor, Statesman House, Barakhamba Road,
New Delhi

[Tender Document for procurement of HCI Solution, Rack Servers and L3 switches](#)

NIXI Requirement:

NIXI is looking for HCI Solution, four Rack Server and fourteen L3 Switches to be installed, commissioned and tested at various locations. Bids (Technical & Financial) are invited from eligible vendors which are valid for a period of 180 days from the last date of submission. Below are the timelines

Name of Work	Purchase of HCI Solution, four Rack Server and fourteen L3 Switches
Bid Submission Start Date	14 th May, 2021 3:00 PM
Submission of queries/feedback by bidders	21 st May, 2021 3:00 PM
Pre-Bid Bidders conference	24 th May, 2021 4:00 PM
Publication of Final Tender documents	27 th May, 2021 3:00 PM
Last Date for bid submission	03 rd June, 2021 3:00 PM
Technical Bid opening	03 rd June, 2021 3:00 PM
Financial Bid Opening	To be informed

1. Cost of Tender documents “Rs. 1000/- to be deposited **National Internet Exchange of India, A/c No. 629401134348, IFS Code – ICIC0006294, ICICI Bank, Nehru Place, New Delhi - 110019** ”
2. Ernest Money Deposit (Refundable) Rs. 1,50,000/- to be deposited **National Internet Exchange of India, A/c No. 629401134348, IFS Code – ICIC0006294, ICICI Bank, Nehru Place, New Delhi - 110019**”

3. Scope of work:

- i) To supply, installation and support of HCI Solution, four Rack Server and fourteen L3 Switches
- ii) 24*7*4 (24 hours a day, 7 days in a week, 4 hours) part replacement, remote support for configuration or any software/hardware issues.

4. Tender Eligibility:

- i) Turnover: Company should have an average turnover of 25 crore per year in last 3 financial years (Documents required). Start-up/MSME exemption for turnover/past performance/experience will be granted as per Govt. of India notifications. To claim same, bidder has to submit the copy of certificate from department of Industry policy and trade promotion.
- ii) Company should be a registered company in India under companies Act 2013 (Documents required).
- iii) Company should have an experience of at least 3 years in supply and installation of similar equipment in India (Documents required).
- iv) Company should not be blacklisted/barred by central govt./state govt./public sector units (central/state) in last 5 years.
- v) The items should be latest model of OEMs and should support at least 07 years after warranty, declaration on OEM letter head need to be executed.

5. Address for delivery of Equipment:

05 Locations in India and exact location details will be shared at the time of delivery/issuance of PO.

- 6. Delivery time for equipment's shall be four weeks from the date of issuance of PO.

7. Instruction for tender bid submission:

The bidders are required to submit hard copies of their bids (technical and financial) at NIXI office, address of which is mentioned in the first page of this document. The bids should be signed and sealed by the approving authority and submitted in closed envelope at NIXI office. Adequate measures should be taken by bidder for sanitizing the envelopes and person who will be delivering the envelopes.

8. Assistance to bidders:

Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the following email id pdns@nixi.in

9. Instructions for tender process

- a) Bid may be submitted in two parts (Technical and financial). Every part of bid should be in separate envelope and should be sealed.
- b) Bidder should submit their compliance against each column in technical bid.
- c) Each column of financial bid should be filled up.
- d) Technical compliance should be supported with relevant documents.

- e) Bids should be completed in all respects, must be submitted on or before the last date specified in the schedule of events.
- f) The NIXI may, at its own discretion, extend the last date for submission of tenders.
- g) All the bids (Technical and Financial) must be valid for a period of 180 days from the last date of submission of the tender for execution of Contract.
- h) In exceptional circumstances, prior to expiry of the original time limit, the NIXI may request the bidders to extend the period of validity for a specified additional period beyond the original validity of 180 days. The request and the bidders' responses shall be made in writing. The bidders, not agreeing for such extensions will be allowed to withdraw their bids.
- i) No Bid shall be modified, substituted or withdrawn by the Bidder after the due date.
- j) Any alteration/ modification in the bid or additional information supplied subsequent to the bid's due Date, unless the same has been expressly sought for by the Authority, shall not be considered.
- k) The bid submitted shall become invalid if: -
 - i) The bidder is found ineligible.
 - ii) The bidder does not provide all the documents as stipulated in the bid document.

10. Terms and Conditions:

- i) All equipment must be compatible with Indian electrical standards
- ii) NIXI, without assigning any reason can reject any tender(s), in which any prescribed condition(s) is/are found incomplete in any respect and at any processing stage.
- iii) The decision of NIXI arrived during the various stages of the evaluation of the bids is final & binding on all bidders.
- iv) Extra Printed/written conditions mentioned in the tender bids submitted by vendors will not be binding on NIXI.
- v) Upon verification, evaluation / assessment, if in case any information furnished by the bidder is found to be factually false/ incorrect (not supported by the documents), their total bid shall be summarily rejected.
- vi) NIXI will not be responsible for any misinterpretation or wrong assumption by the bidder, while responding to this tender.
- vii) All bidders agree with NIXI for honoring all aspects of fair trade practices in executing the work orders placed by NIXI.
- viii) In the event of an empaneled company or the concerned division of the company being taken over /bought over by another company, all the obligations and execution responsibilities under the agreement with the NIXI, should be passed on for compliance by the new company in the negotiation for their transfer.
- ix) If the name of the product is changed for describing substantially the same in a renamed form; then all techno-fiscal benefits agreed with respect to the original product, shall be passed on to NIXI and

the obligations with NIXI taken by the vendor with respect to the product with the old name shall be passed on along with the product so renamed.

- x) In the case, vendor is found in breach of any condition(s) of tender or work order, at any stage during the course of service, appropriate legal action as per rules/laws, may be initiated against the vendor and BG shall be forfeited, besides debarring and blacklisting the bidder concerned for at least three years, for further dealings with NIXI.

11. Delivery, Installation and Commissioning of Equipment:

The vendor should agree to deliver, install and commission all the equipment at the specific location as identified by NIXI. NIXI shall reject the component/equipment supplied if it does not comply with the specifications or does not function properly after installation. The vendor shall replace the non-functioning or defective equipment or its spares immediately and ensure proper functioning of all equipment.

12. Warranty and AMC Clause:

- I. All quoted items should be under Five Years on-site comprehensive warranty from the date of its successful installation and acceptance at the site, including free spare parts, kits etc. During this period, all the parts of the product shall be considered as non-consumable and vendor shall have to maintain all spare parts at no extra cost, if required.
- II. Vendor must ensure 07 years AMC. AMC shall be on the same terms and conditions as applicable for warranty. Vendor may quote separately for AMC.
- III. During this period, besides service/maintenance of Hardware & System Software and all driver software up-gradation, patches shall also be provided at no extra cost.
- IV. The defects, if any, shall be attended to on immediate basis and replacement part shall be installed at NIXI location within 4 hours of escalation. In no circumstances, the NIXI exchange shall be down for more than 4 hours and necessary replacement will be provided on immediate basis for the same.
- V. Penalty will be applicable Rs. 2000/- per hour after initial 4 hours for down in NIXI operations due to delay in replacement of parts , limited to Rs.25,000 per day and further limited to 10 % PO value.

VI. The vendor shall ensure that that there is a back-to-back agreement with OEM to meet hardware and software support during this period. (Agreement Document to be attached)

VII. During the period of support / warranty, the vendor shall:

- a) Support the entire hardware/software of equipment.
- b) Diagnose the hardware/software faults and rectify the hardware/software faults detected.
- c) Repair and replace the faulty parts or part thereof.
- d) Upkeep the software periodically including implementation of patches, if required.
- e) Periodically analyze the health of various components of system.
- f) Vendor shall carry out support activities as per requirement of NIXI.

VIII. Repair and Maintenance

- a) Vendor shall station their Technical Support Engineers (TSEs), if required, for providing services to NIXI at their identified office to meet the criteria of turnaround time for fault restoration/faulty unit repair etc.
- b) Vendor shall assign a Support Manager for NIXI, who shall act as a single point of contact for NIXI for handling any service related issues during the agreement period.
- c) Vendor shall ensure the availability of spare parts at different locations to meet the criteria of turnaround time for fault restoration/faulty unit repair etc.
- d) Vendor shall ensure that all the TSEs are competent and responsible engineers and are capable of giving all types of necessary technical/assistance to NIXI representatives in respect of all the hardware and software components of Equipment as well as capable of attending faults/resolvingproblems whenever needed.
- e) Vendor shall also ensure availability of experts in case of non-rectification of the faults by TSEs.
- f) Vendor shall make the arrangements for taking out the faulty items from NIXI nodes after replacing them with new working spare, during support period.
- g) Vendor shall bear the entire cost including freight, insurance etc. and other incidental charges related to replacement of faulty items. It shall also include any interconnecting cables like power cables, networking cables, fibre cables etc.
- h) In case the faulty equipment/card/part is replaced, the replaced equipment/card/part shall become the property of NIXI and the defective will become the property of vendor.

13. Permits, Taxes and other duties:

The vendor shall obtain necessary road permits and pay all necessary local taxes and duties in delivering the equipment. NIXI will not be responsible for the same.

14. Payment Schedule:

S. No.	Details	Fees payable (% of contract value)	Remarks
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1	Delivery of items	50	Payable upon delivery
2	Satisfactory completion of installation and commission with duly certified by NIXI team	35	
3	After one years of successful commissioning	15	Payable upon successful installation and after submission of 15% Bank Guarantee with 05 Years 06 Months validity

The vendor shall charge all applicable taxes as per the prevailing tax laws in India which may change time to time. All the payment to the vendor shall be subject to tax deductions under the prevailing tax laws of India.

15. Bank Guarantee:

15% of total quoted amount in tender as performance bank guarantee, which will be renewed after one year during AMC. Below is the format of bank guarantee:-

We _____ bank do hereby undertake to pay the amounts due and payable under this guarantee without any demur merely or a demand from ' _____ ' (name of entity for whom bank guarantee is given) stating that the amount claimed is due by way of loss or damage caused to or would cause to or suffered by '(name of entity for whom bank guarantee is given) by reason of any breach by the said tenderer(s) of any of the terms or conditions contained in the said tender or by reason of the said tenderer's failure to keep the tender open. any such demand made on the bank shall be conclusive as regards the amount due and payable by the bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding _____ (Rs. _____ only).

We _____ bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the finalisation of the said tender and that it shall continue to be enforceable till the said tender is finally decided and order placed on the successful tenderer and/ or till all the dues of _____ (name of Entity for whom Bank Guarantee is given) under/or by virtue of the said tender have been fully paid and its claims satisfied or discharged or till a duly authorised officer of _____ (name of Entity for whom Bank Guarantee is given) certified that the terms and conditions of the said tender have been fully and properly carried out by the said tenderer(s) and accordingly discharges the guarantee.

Unless a demand or claim under this guarantee is made on us in writing on or before the _____ t
o include 3 months claim over and above the period mentioned in the paragraph for the validity of the bank guarantee in the tender we shall be discharged from all liability under this guarantee thereafter.

We _____ bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of _____ (name of Entity for whom Bank Guarantee is given) in writing.

Dated _____ day of _____ 2021.

Corporate Seal for Bank.

16. Evaluation Criteria:

- i) Technical evaluation will be based on technical compliance. Absence of non-compliance or non - submission of technical supporting documents may lead to rejection of bid.
- ii) No relaxation is permitted in eligibility conditions after submission of bids.
- iii) The financial bid will be evaluated the total of cost and AMC of items i.e. (a) and (b) part of financial bid.
 - a. The total costs will the cost of 100% Hardware/Software with applicable taxes.
 - b. Cost of AMC will be taken for 07 years (Agreegated). For evaluation purpose, AMC cost will be taken as 10% of the Hardware cost.
 - c. The total cost for evaluation will be cost of equipment (as defined in III a above) and cost of 07 years AMC (as defined III b above)

17.Entire Agreement: The Agreement will be between NIXI and the bidder (including all backend agreements of bidder with OEM and third parties) constitutes the entire agreement between the Parties with respect to the matters addressed herein and can only be modified through a written instrument signed and agreed with consensus-ad-idem by both parties

- a) **Governing Law and Jurisdiction:** This Agreement shall be construed and governed in accordance with the laws of India. Further, in case of any dispute is between the parties, the same shall be referred to the Arbitration and shall be decided as per the provisions of the Arbitration & Conciliation Act, 1996 (amended and updated as of date) with arbitration seat/venue at New Delhi. Any Appeal or petition against the Arbitration Award/Final Order/Judgment shall be filed in and decided by Courts in Delhi, India.

18. CONFIDENTIALITY AND SECURITY

- a. The selected agency and their personnel will not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract or business or operations of NIXI without the prior written consent of NIXI.
- b. The agency will ensure that no information about the software, hardware, and database, the policies of NIXI is taken out in any form including electronic form or otherwise, from the client site by the manpower posted by them.

19. INDEMNITY

- a. The Selected Agency shall indemnify NIXI from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
- b. Any negligence or wrongful act or omission by the Selected Agency or any third party associated with Selected Agency in connection with or incidental to this Contract or;
- c. Any breach of any of the terms of this Contract by the Selected Agency, the Selected Agency's Team or any third party
- d. Any infringement of patent, trademark/copyright arising from the use of the supplied goods and related services or any party thereof
- e. The Selected Agency shall also indemnify the Purchaser against any privilege, claim or assertion made by a third party with respect to right or interest in, service provided as mentioned in any Intellectual Property Rights and licenses.
- f. NIXI stand indemnified from any employment claims that the hired manpower / agency's manpower may opt to have towards the discharge of their duties in the fulfillment of the work orders.
- g. Each party also stands indemnified from any compensation arising out of accidental loss of life or injury sustained by such party's manpower while discharging their duty towards fulfillment of the purchase orders caused by the negligence or willful misconduct of the other Party or its agents and representatives.

20. LIMITATION OF LIABILITY

- a. Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.
- b. Except in the case of Gross Negligence or Willful Misconduct on the part of the Selected Agency or on the part of any person acting on behalf of the Selected Agency executing the work or in carrying out the Services, the Selected Agency, with respect to damage

caused by the Selected Agency including to property and/or assets of NIXI shall regardless of anything contained herein, not be liable for any direct loss or damage that exceeds (A) the Contract Value or (B) the proceeds the Selected Agency may be entitled to receive from any insurance maintained by the Selected Agency to cover such a liability, whichever of (A) or (B) is higher. For the purposes of this Clause, "Gross Negligence" means any act or failure to act by a Party which was in reckless disregard of or gross indifference to the obligations of the Party under the Contract and which causes harmful consequences to life, personal safety or real property of the other Party which such Party knew, or would have known if it was acting as a reasonable person, would result from such act or failure to act. Notwithstanding the foregoing, Gross Negligence shall not include any action taken in good faith for the safeguard of life or property. "Willful Misconduct" means an intentional disregard of any provision of this Contract which a Party knew or should have known if it was acting as a reasonable person, would result in harmful consequences to life, personal safety or real property of the other Party but shall not include any error of judgment or mistake made in good faith.

- c. This limitation of liability slated in this Clause, shall not affect the Selected Agency's liability, if any, for direct damage by Selected Agency to a Third Party's real property, tangible personal property or bodily injury or death caused by the Selected Agency or any person acting on behalf of the Selected Agency in executing the work or in carrying out the Services.

21. FORCE MAJEURE

If at any time, during the continuance of the agreement, the performance in whole or in part by either party of any obligation under the agreement is prevented or delayed by reasons beyond the control of a party such as war, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics quarantine restrictions, strikes, natural calamities, lockouts, acts of state or acts of God (hereinafter referred to as "events"), provided notice of happenings of any such event is duly endorsed by the appropriate authorities/chamber of commerce in the country of the party giving notice, is given by party seeking concession to the other as soon as practicable, but within 21 days from the date of occurrence and termination thereof, neither party shall, by reason of such event, be entitled to terminate the empanelment/contract, nor shall either party have any claim for damages against the other in respect of such nonperformance or delay in performance, and deliveries under the empanelment/contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, provided further, that if the performance in whole or in part or any obligation under the empanelment is prevented or delayed by reason of any such event for a period exceeding 60 days, NIXI may at its option, terminate the empanelment. Neither Party shall be liable for any failure or delay in the performance of its obligations under the contract or Work Orders hereunder to the extent such failure or delay or both is caused, directly, without fault by such Party, by reason of such event. NIXI shall however, be responsible to pay the vendor for the services successfully rendered to the satisfaction of NIXI under the work orders/ purchase orders issued pursuant to the contract.

22. DISPUTE RESOLUTION

- a. The Bidder and NIXI shall endeavor their best to amicably settle, by direct negotiation, all disputes arising out of or in connection with the empanelment.
- b. In case any dispute between the Parties, does not settle by negotiation, the same may be resolved exclusively by arbitration and such dispute may be submitted by either party for

arbitration. Arbitration shall be held in New Delhi and conducted in accordance with the provisions of Arbitration and Conciliation Act, 1996 or any statutory modification or re-enactment thereof. Each Party to the dispute shall appoint one arbitrator each and the third to be appointed by the MeitY, Government of India.

- c. The “Arbitration Notice” should accurately set out the disputes between the parties, the intention of the aggrieved party to refer such disputes to arbitration as provided herein, the name of the person it seeks to appoint as an arbitrator with a request to the other party to appoint its arbitrator within 45 days from receipt of the notice. All notices by one party to the other in connection with the arbitration shall be in writing and be made as provided in this tender document.
- d. Each Party shall bear the cost of preparing and presenting its case, and the cost of arbitration, including fees and expenses of the arbitrators, shall be shared equally by the Parties unless the award otherwise provides. The Bidder shall not be entitled to suspend the Service/s or the completion of the job, pending resolution of any dispute between the Parties and shall continue to render the Service/s in accordance with the provisions of the Contract/Agreement notwithstanding the existence of any dispute between the Parties or the subsistence of any arbitration or other proceedings.

Technical Specification

Item no. 1 – HCI Solution (5 clusters with 12 nodes in each cluster)

	Specifications of HCI Server	Compliance (Y/N)
	The solution should provide hyper converged software that allows delivery of enterprise-class storage services using latest x86 server infrastructures without dependence on a separate Storage Area Network & associated components such as SAN Switches & HBAs.	
	The HCI solution should support deployment on any one of leading hypervisors (VMware/Hyper-V). The solution components quoted including HCI system , hypervisor, server, network switch should be as a factory fitted engineered appliance.	
	The proposed HCI solution should be a factory shipped engineered & integrated appliance . All the components of HCI such as compute nodes, hypervisor OS, storage disks, management software should be factory installed and shipped ready for fast deployment.	
	The HCI solution should support scaling hyperconverged node (compute+storage), compute-only, storage-only(HDDs in existing node) independent of each other under a single cluster.	
	The Solution should support compute only nodes. To add virtual compute capacity to the cluster which can access storage from converged nodes.	

	The proposed HCI solution should support scalability up to 32 nodes or higher in a single cluster. Each server node should have dedicated redundant hot swap power supplies & cooling fans.	
	The solution should comprise of 5 clusters of 12 nodes in each cluster . Each cluster should have minimum 12 nodes with each node having a min. of 2x Intel Xeon scalable processors with per CPU config of 2.2 Ghz, 22 cores. Each node should be populated with 768 GB of memory from day 1 with scalability of 1.5 TB in future.	
	Each HCI cluster should be configured with minimum of 18 TB usable storage capacity on NVMe drives (excluding cache, boot capacity) using 3 mirror copies of data and a tolerance of minimum 2 nodes failure across the cluster. The capacity should be absolute capacity without considering any data efficiency techniques as Data Deduplication, compression & erasure coding. All converged nodes in the cluster should be provided with appropriate capacity of write intensive cache drive.(20x Endurance of higher). The solution must be provided with drive retention support, in case of drive failure.	
	The HCI should be proposed with NVMe drives with capacity tier not exceeding 1TB. The drives should be presented via pass through mode without any hardware RAID on every server node.	
	Min. 8* 25Gbps network ports or equivalent bandwidth per server node.	
	The hyper-converged cluster (total 5 clusters) should include min. 2 Qtys of L2 network switches per cluster, each with 24*10/25G, 6*40/100G ports per switch with redundant power supplies and cooling fans. The switches should be provided with sufficient 25Gbps for downlink ports and minimum 6*40/100Gb Ethernet ports, All required SFPs , licenses should be provided.	
	The HCI solution must support end-to-end installation of compute, network, storage, and network QoS in automated installation steps	
	The solution should support Single click non-disruptive rolling upgrades of HCI software and system firmwares.	
	Single dashboard to manage all clusters, virtual machines, network, storage, monitor performance and manage events & alerts	
	The HCI software should pool all NVMe's from all converged nodes in the cluster to present a single storage resource pool to all nodes in the cluster. There should not be any dependence on data locality for read, write operations, the cluster in production environment will be implemented without data locality.	
	The HCI software should pool all cache drives from all the nodes in the cluster to present a single storage cache pool across the HCI nodes.	
	The HCI should support IO striping across all NVMe's in the cluster for individual virtual machines to extract maximum throughput and performance from the cluster.	
	Hypervisor must be certified by leading OS OEMs including Microsoft and RedHat	
	The HCI solution should be able to present cluster wide storage	

	performance to any single large Virtual machine.	
	Present scale-out storage to compute only nodes for Seamless failover of compute-only nodes for a fully high available design of HCI	
	The HCI should support connecting to external 3rd party NAS (CIFS, NFS) storage into the HCI cluster for capacity expansion and ease of migration from existing environment to HCI	
	The HCI solution should provide Inline Deduplication across all storage tiers.	
	The Solution should allow for taking clones of individual Virtual Machines for faster provisioning. Any additional software or license required should be provided on day 1.	
	The solution should automatically rebalance data to maintain balanced utilization of storage across the HCI converged nodes. When storage capacity is scaled up or scaled out, the HCI nodes must automatically redistribute data equally across all nodes equally without migrating VMs.	
	The HCI solution quoted should have native replication capability independent on Hypervisor	
	Virtualization software shall provide a Virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS for greater reliability and security	
	Virtualization software should support live Virtual Machine migration with enhanced CPU compatibility and without the need for shared storage option.	
	Virtualization software should allow for hot addition of vCPU, memory, disk without any downtime.	
	Virtualization software should have the ability to live migrate VM files from one storage array to another without any VM downtime. Support this migration from one storage protocol to another (ex. iSCSI, DAS).	
	Virtualization software shall be able to dynamically allocate and balance computing capacity across collections of hardware resources aggregated into one unified resource pool	
	Virtualization manager should be highly available with out of box HA without any dependency on clustering software. Virtualization manager should have the capability to monitor other same platform virtualized workloads in the data center. Each cluster should be provided with Virtualisation manager	
	The solution should provide vertical and horizontal scaling of workloads to automate scaling actions of infrastructure resources.	
	The solution should support virtual resource management for multiple leading hypervisors to access information about the managed VM's, Hosts, datastores and execute commands such as provisioning, resizing (scale in & scale out), reconfiguring entities in the environment. can perform system monitoring, report on wasted storage, recommend actions, execute moves for VMs and VM storage, and execute VM reconfiguration (change CPU count, memory, etc.).	
	Bidder must quote appropriate license to enable and meet mentioned	

	features for 60 workloads per cluster	
	The vendor must provide all features and license applicable in Hypervisor OS, VMM Manager & HCI solution proving enterprise licenses (highest tier available). The solution must be provided with drive retention support, in case of drive failure.	

Item no.-2 – Rack Server

	Specification for Rack Server	Compliance (Y/N)
	Rack Server shall have a minimum of two (2) Intel latest generation Processors with minimum 2.2 GHz & 24 cores per socket along with virtualization software (VMware/HyperV/RHEV) along with VMM Manager.	
	Intel chipset compatible with the offered processors.	
	The server should support minimum 20 hot-swappable drive slot (may be a combination of SAS, NL-SAS and SSD, NVMe drives).	
	Server should be configured with minimum 16 TB NVMe High Endurance drive with minimum 4 number of drives	
	The Server RAID controller should at least support the following configurations RAID 0, 1, 5, 6, 10, 50, and 60	
	The Server should be configured with 768 GB of DDR4 Memory from day one	
	Support for advanced memory redundant technologies like Advanced error-correcting code (ECC) and memory mirroring.	
	Should have minimum of 4* 10/25 GbE port across 2 network cards for LAN connectivity	
	Minimum 3 PCIe Generation 3.0 slots should be available after population NIC card	
	The server should provide cryptographic firmware updates	
	Server should provide Anti-counterfeit feature.	
	The server should provide hardware policy based security	
	The server should provide Hardware root of trust	
	The server should provide system lock down	
	Should support out of band upgrades, agentless out-of-band management, integrated diagnostics and Power monitoring and reporting. Zero-touch repository manager and self-updating firmware system.	
	The system should provide management of multiple servers from single console which should provide proactive security & software advisory alerts and should outline the fixes required to address the issues	
	The server should support industry standard management protocols like IPMI v2 and SNMP v3	

	One 1-Gbps RJ-45 management port	
	The server should support multiple management interfaces including web user interface and command line interface.	
	Should have the following ports for server connectivity - 1 serial port, 2 USB 3.0/2.0 ports , 1 VGA port	
	Supports hot swappable redundant fans	
	Supports hot swappable redundant power supplies	
	Rail Kit and cable management arm to be provided along with the server	
	Server should have minimum 03 years warranty, and a hard disk retention support in case of drive failure. All provided software /hypervisor/VMM must have a highest class license support (Enterprise or above)	
	2U Minimum	
	The dashboard should be able to monitor rack & hyper-converged software hosted across multiple locations through a single console. The system should be able to provide system-level and server-level alarms	

Item no. -3- Layer 3 switch

	Specifications of Layer 3 switch	Compliance (Y/N)
	Switch shall be of 48 port (1/10/25G) and 4 up-link port (40/100G) , 1U and rack mountable in standard 19" rack.	
	Switch shall have min 16 GB RAM and 16 GB Flash	
	Switch should support min 480 GB storage drives for storing logs etc..	
	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan.	
	Switches shall support a feature to allows links that are physically connected to two different switch to appear as a single port channel, and should support clustering of switches so that control path of the 2 switches becomes one. Switch should support an active/standby control plane. Shall support upgrades, downgrades, and rollbacks without downtime for a switch cluster.	
	Performance :	
	Switch should be non blocking architecture.	
	Switching system shall have minimum 50K MAC Addresses and 1K VLANs.	
	Switch should support min 18K ACLs, 16K Multicast and 32K IPv4, 16K IPv6 Routes, Packet buffer : 36 MB	
	Switch shall support application visibility and traffic monitoring with min 60 K sflow/jflow/netFlow entries.	
	The device should be IPv6 certified from day one	
	Functionality :	

	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2	
	Should support AES-256 support with MACSEC-256 encryption algorithm on hardware and supported across all ports	
	Must support BGP, MPLS(L2 and L3 MPLS VPNs), IS-IS, VRF, VXLAN, Both static and dynamic NAT/PAT , OSPF Routed Access, Policy-Based Routing (PBR), PIM SM, and Virtual Router Redundancy Protocol (VRRP) from Day 1, must support at least 16 BGP multiple paths to allow load-balancing among the path	
	Shall have 802.1p class of service, marking, classification, policing and shaping. Should support strict priority queuing.	
	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG.	
	Switch should support port security, DHCP snooping, Spanning tree root guard, First Hop Security.	
	IPv6 support in hardware, providing wire rate forwarding for IPv6 network	
	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.	
	Eight egress queues per port for different types.	
	During system boots, the system's software signatures should be checked for integrity. System should capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.	
	Switch must support RESTCONF YANG-Patch Support for YANG-Patch media type as specified by RFC 8072.	
	Interface:	
	Switch should be loaded with following SFPs from day one 1) 4 * 40G/100 gig SRBD 2) 12 * 10/25 Gig SR	
	Certification:	
	Switch shall conform to UL 60950, IEC 60950, CSA 60950, EN 60950 Standards	
	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.	

B: Format of Financial Bid:

a) Cost of Items

S No.	Items	Qty. (N) (A)	Unit Price in INR (P) (B)	Taxes (C)	Total Price in INR =N*P + Taxes Total Price = A*B +C
1	HCI Solution	1			
2	Rack Server	4			
3	Layer 3 Switch	14			
		Total (X)			

b) Comprehensive AMC Charges (including all taxes) :

S.no.	Items	Qty. (N)	Year 1st (A) INR	Year 2nd (B) INR	Year 3rd (C) INR	Year 4th (D) INR	Year 5 th (E) INR	Year 6 th (F) INR	Year 7 th (G) INR	Total =N*(A+B+C+D+E+F+G) INR
1	HCI Server	1								
2	Rack Server	4								
3	Layer 3 Switch	14								
		Total(Y)								

Total {(X) + (Y)} = GTV

- i) Quote should be in INR and in round figures. Taxes as applicable will be paid extra.
- ii) AMC charge should not be less than 10% of quoted basic price (without tax) of item.
- iii) The payment terms above mentioned (50% on delivery & 35% on installation) is only for equipment to be supplied and not for AMC. AMC charges will be on completion of that year i.e. the first year AMC charges will be paid at the end of first year after end of warranty period.