

6.2.2.79 GTP of Database Server

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Database Server			
SL	Item Name	Descriptions	Bidder Response
1	Brand	Same as the Storage OEM.	
2	Quality	ISO 9001:2015 for the manufacturer, FCC/CE Class A for quality assurance. Offered server configuration must be Energy Star 4.0 Compliant.	
3	Model	To be mentioned by the bidder.	
4	Country of origin	To be mentioned by the bidder.	
5	Country of Manufacturing	To be mentioned by the bidder.	
6	Country of Assembling	To be mentioned by the bidder.	
7	Form Factor	Minimum 4U Rack Mountable Server with Rail Kit, Cable Management Arm, and Bezel Kit.	
8	Processors	Shall be provided with min. 4x Intel Xeon 6524P (6 th Generation) 2.7GHz 24-core 150W Processor or Higher.	
9	Cache L3	Minimum 144MB of L3 Cache per processors.	
10	Chipset	System on Chip (SoC) design.	
11	Internal Storage	Minimum 2 x 1.6TB NVMe Mixed Use 2.5-inch hot-pluggable SSD for OS booting. Shall be provided with 8SFF drive bay kit supporting SAS/SATA/NVMe SSD drives. Future expandability up to 32 SFF drive slots.	
12	Storage Controller	Shall be provided with Integrated Hardware RAID controller with 8GB cache supporting RAID 0, 1, 5, 6, 10, 50, 60 supporting SAS/SATA/NVMe devices.	
13	Memory	Shall be provided Min. 512GB with (4x 128GB or 8x 64GB dual-Rank) 6400 MT/s DDR5 Memory. Shall support up to 8TB memory expandability using 64x 128GB RDIMM @ 6400 MT/s DDR5 memory. 64 DIMM slots with Four processors (16 DIMM slots per processor).	
14	Power supply and Fan kit	Redundant & fully provisioned; minimum 4 hot-pluggable fan and 4x 2400W Power supply should be provided.	
15	Network ports, Cards, GPU & PCIe	Shall be provided with Min. 2x 2-port 10G SFP+ adapter with 10G SFP+ SR transceivers. Shall be provided with Min. 2x 64Gbps 2-port Fibre Channel Host Bus Adapter Shall be provided with 6 (Six) 5.0 PCIe slots and future upgradable up to 12 (Twelve) PCIe slots.	
16	Embedded Remote Management and firmware security	Server should have a dedicated 1Gbps remote management port with advanced/enterprise license/subscription. Server should have security dashboard: displaying the status of important security features, the Overall Security Status for the system, and the current configuration for the Security State and Server Configuration Lock features.	

Hi

gk

R2

[Signature]

17	Firmware security	For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable.	
		Should maintain repository for firmware and driver's recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware	
18	Server Management	Software should come with a dashboard view to quickly scan the managed resources to assess the overall health of the data center. It should provide an at-a-glance visual health summary of the resource's user is authorized to view.	
		The Server Management Software should be of the same brand as of the server supplier.	
		Offered management software must come with RBAC features.	
19	System Security	Trusted Platform Module 2.0 must be provided.	
		Commercial National Security Algorithms (CNSA)	
		Secure Recovery - recover critical firmware to known good state on detection of compromised firmware	
20	Hypervisor & Operating System Support	To be mentioned by the bidder.	
21	Warranty & services	a) 3Years collaborative warranty with 24x7 mission critical one-point support from OEM, same day response. b) 15-minute response 24x7 for severity 1 incidents (direct connect to product specialist where available) and 4-hour standard response.	
22	OEM Authorization Letter & Documents	a) OEM must maintain in-country local part depot center. b) OEM authorized letter must be submitted mentioning the depot location. Warranty support SKU and datasheet with the detail BoQ and sizing document should be provided with the technical compliance document.	
23	License	The license period shall have at least 03 years and will be calculated from the first day of system handover.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer






6.2.2.80 GTP of Application Server

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Application Server			
SL	Item Name	Detail Required Specification	Bidder response
1	Brand	To be mentioned by the bidder. Offered server OEM must be listed among the top three brand in both shipment and revenue in recent quarters report released by IDC/CRN.	
2	Quality	ISO 9001:2015 for the manufacturer, CE certification for quality assurance.	
3	Model	To be mentioned by the bidder	
4	Country of origin	To be mentioned by the bidder	
5	Manufacturing Country	To be mentioned by the bidder	
6	Form Factor	2U Rack Mountable Server with Rail Kit, Cable Management, and Bezel Kit.	
7	Processors	Should be provided with min. 2 x Intel Xeon (6 th Generation), 6520P Processor, 2.4GHz 24-core or Higher.	
8	Cache L3	Minimum 144MB or Higher	
9	Chipset	Intel Chipset compatible with offered processor	
10	Memory	Minimum 384GB (4x 96GB Dual-Rank) DDR5 6400MT/s memory. Server must have minimum 32 DIMM slots and can be expandable up to 3TB (32x 96GB) without changing the offered memory module.	
11	Storage array controller	Integrated Hardware RAID controller supporting RAID 0, 1, 10 supporting SAS/SATA/NVMe devices.	
12	Internal Storage	Shall be provided with minimum 2x 480GB M.2 NVMe hot-pluggable SSD. Shall be provided with 8x 2.5-inch drive bay slots and future upgradable up to minimum 30 drive bay slots.	
13	Power supply and Fan kit	Redundant & fully provisioned; minimum 6 hot-pluggable fan and minimum 2x 1000W Titanium Power supply should be provided.	
14	Network Card	Each server should be provided with- 1x 4-port 1G Network Interface Card. 2x 2-port 10G SFP+ adapter. 1x 2-port 64Gbps FC HBA	
15	Expansion Slot (PCIe)	Shall be provided with 6 PCIe 5.0 slots and future upgradable up to 8 PCIe 5.0 slots.	
16	Embedded Remote Management and firmware security	Server should have a dedicated 1Gbps remote management port with advanced/enterprise license/subscription. Server should have security dashboard: displaying the status of important security features, the Overall Security Status for the system, and the current configuration for the Security State and Server Configuration Lock features.	
17	Firmware security	For firmware security, system should support remote management chip creating a fingerprint in the silicon, preventing servers from booting up unless the firmware matches the fingerprint. This feature should be immutable.	

Application Server			
SL	Item Name	Detail Required Specification	Bidder response
		Should maintain repository for firmware and driver's recipes to aid rollback or patching of compromised firmware. Should also store Factory Recovery recipe preloaded to rollback to factory tested secured firmware	
18	Server Management	Software should come with a dashboard view to quickly scan the managed resources to assess the overall health of the data center. It should provide an at-a-glance visual health summary of the resource's user is authorized to view.	
		The Server Management Software should be of the same brand as of the server supplier.	
19	System Security	- Trusted Platform Module 2.0 must be provided. - Commercial National Security Algorithms (CNSA) - Secure Recovery - recover critical firmware to known good state on detection of compromised firmware	
20	Hypervisor & Operating System Support	Shall support the below operating systems and hypervisors - Microsoft Windows Server - Red Hat Enterprise Linux - SUSE Linux Enterprise Server - VMware ESXi - Canonical Ubuntu - Oracle Linux and Oracle VM - Citrix	
21	Warranty & services	3 Years collaborative warranty single-point support from OEM. 4-hour standard response. - OEM must maintain in-country local part depot center; authorization letter must be submitted. - OEM manufacturer authorization letter must be submitted.	
22	License	The license period shall have at least 03 years and will be calculated from the first day of system handover.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer

6.2.2.81 GTP of SAN Switch

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

SAN Switch			
SL	Item	Descriptions	Bidder response
1	Brand	Same as server OEM	
2	Model	To be mentioned.	
3	Country of Origin	To be mentioned.	
4	Country of Manufacturing	To be mentioned.	
5	Form Factor	Please specify rack unit.	
6	Number of ports	Each switch should be configured with 24 ports in a single domain concurrently active at 64Gb/sec with no over subscription.	
7	Scalability	Scalability up to Fifty-Six (56) Ports	
8	Auto-sensing	Should protect existing device investments with auto-sensing 16, 32 and 64 Gbit/sec capabilities	
9	Port Type	The switch shall have universal ports so that port can self-configure as E, D, F and EX Port respectively.	
10	Quality of Service (QoS)	Switch shall have support for Adaptive Networking services such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QOS zones to expedite high priority traffic.	
11	Firmware Upgrades	The switch should have USB port for firmware download, support save, and configuration upload/download.	
12	Software License	Offered SAN switch shall support Fabric Performance Impact monitoring, Slow Drain Device Quarantine, port & WWN based zoning, broadcast zoning, peer zoning & target-driven zoning, Dynamic Path Selection, Extended Fabrics, Enhanced BB Credit Recovery, FDMI, Frame Redirection, Frame-based Trunking, FSPF, Integrated Routing, NPIV, Registered State Change Notification, Reliable Commit Service, Simple Name Server and virtual fabric services. Switch shall be configured with all required licenses for supporting above services.	
13	Redundant Components	Should mention redundant and hot pluggable components.	
14	Manageability	Switch shall have support for web-based management and should also support CLI	
15	Software	To be mentioned the features of all the software in details	
16	Latency & Bandwidth	Offered switch port to port latency shall not be more than 460 ns using cut through frame switching. Aggregated device Bandwidth: minimum 3.5Tbps	
17	Port Activation	Minimum Twenty-Four (24) ports should be activated from day one.	
18	FC Cable	Minimum 24 x LC/LC Multi-mode OM4 15m Fiber Cable	
19	Short wave kit	All offered activated FC ports shall be populated with 64Gbps SFPs	
20	Power Supplies	Offered SAN switches must have redundant PSU and highly efficient in power consumption.	
21	Installation & Commissioning	On site Installation & Commissioning must be done by vendor	

Handwritten signatures and initials in blue ink.

22	Warranty & Support	a) 3 Years collaborative warranty with 24x7 mission critical one-point support from OEM, same day response. b) 15-minute response 24x7 for severity 1 incidents (direct connect to product specialist where available) and 4-hour standard response. c) OEM must maintain in-country local part depot center and OEM authorized letter must be submitted mentioning the depot location.	
23	License	The license period shall have at least 03 years and will be calculated from the first day of system handover.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer

6.2.2.82 GTP of Management Switch

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Management Switch			
S/N	Product Names/Items	Description of requirements	Bidder's Responses
1	Brand	To be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by the bidder	
4	Country of Manufacturer	To be mentioned by the bidder	
5	Quantity	Two	
6	Industry Recommendations	The OEM must be recognized as a Leader in 2024 & 2025 Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure.	
7		Proposed switch must be FCC, CE, RCM, VCCI, BSMI, UL, CB and RoHS2 certified	
8	Architecture	Switch proposed should have minimum 24 x 1GE copper downlink & 4 x 10GE SFP+ ports uplink ports from day one. Bidder should quote 4 x 10G SFP+ SR module for each appliance.	
9		Switch should support non-blocking, store-n-forward architecture	
10		Switch should have a RJ-45 Serial console port	
11		Switch should have a dedicated MGMT port	
12		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
13		Proposed Switch should support minimum 16K MAC address storage	
14		Proposed switch should support minimum 2 MB Packet Buffers	
15		Proposed switch should support 4000 VLANs	
16		Network Latency: Less than 1µs	
17		Should support DRAM 1GB or higher	
18		Mean Time Between Failures : Minimum 10 years	
19		Redundant Power : Redundant AC	
20		Operating Temperature: 32°–113°F (0°–45°C)	
21		Humidity: 5%–95% non-condensing	
22		Air-Flow Direction: side-to-back	
23	Switching Performance	Switching capacity (Duplex) of the proposed switch should be minimum 120 Gbps	
24		Packet per second capacity (Duplex) of the switch should be minimum 180 Mpps or higher	
25	Switch Layer 2 Services	Switch must support Jumbo frames and link auto-negotiation	
26		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP and STP	
27		Should support Edge Port / Port Fast	
28		Should support IEEE 802.1p Mapping to priority queue	
29		Should support IEEE 802.1q VLAN tagging, Private VLAN	
30		Should support IEEE 802.3ad Link Aggregation with LACP with maximum 8 Link Aggregation Group size	
31	Authentication Services	Switch should support LLDP, LLDP-MED	
32		Switch should support MAC based, IP based, protocol based VLAN assignment	
33		Switch should support 802.1x port-based authentication	
34		Switch should support 802.1x authentication via certificate EAP-TLS and EAP-TTLS	
35		Switch should support 802.1x guest VLAN assignment	

36		Switch should support 802.1x authentication fail VLAN for unauthenticated users	
37		Switch should support LDAP, RADIUS, TACACS+	
38	Security Features	Switch should support minimum 100 Access control list (ACL) with Schedule features	
39		Switch should support Storm Control, LoopGuard	
40		Should support IGMP snooping, DHCP snooping, DHCP relay	
41		Should support Port mirroring, sFlow/Netflow/jFlow	
42		Should support port MAC limit, MAC-IP binding, Per-port and per-VLAN MAC learning limit	
43		Switch should support ACL with classifier(src-mac, dst-mac, ether-type, src-prefix, dst-prefix, service-id, vlan-id)	
44	QoS	Switch should support support QoS to provide packet classification, packet marking, packet queuing	
45		Switch should support 4 queues per port	
46		Switch should support CoS and DSCP marking to indicate the priority of outgoing packets	
47		Switch should support Strict Scheduling, Simple Round Robin (RR), and Weighted Round Robin (WRR) scheduling modes for queuing	
48	Management Features	Switch must support central management system though offered router/firewall to built up a software define network architecture from day one. Bidder may quote additional hardware/software for central switching mangement	
49		Switch must support Telnet/SSH, HTTP/HTTPS...etc.	
50		Switch should support SNMP v1, v2c and v3	
51		switch must log all authentication events: locally and via syslog	
52		Switch should support Packet Capture and diagnose features in CLI offer similar packet capture capabilities like tcpdump.	
53		Switch should support Dual Firmware	
54		Switch must support SPAN, RSPAN, and ERSPAN	
55		Switch must support software download/upload via TFTP/FTP/GUI	
56		Support for HTTP REST APIs for Configuration and Monitoring	
57	Manufacturer authorization	Bidder must be submitted Manufacturer Authorization form (MAF) from the OEM	
58	License	Bidder should quote necessary license to meet the all the requirements and license should be perpetual.	
59	Warranty	Manufacturer's warranty part number should be mentioned, minimum 3 (Three) years warranty for OEM technical solution support, Patch, New Software Upgrade and RMA replacement	
60		The Original Equipment Manufacturer (OEM) must have 24x7x365 Global TAC support and toll-free number for after sales service	
61	Installation, Testing and Commissioning	Bidder must carry out on site installation, testing and commissioning. In consultation with IT Department, bidder must configure appropriate security and administration related policies, must do integration with other related hardware/software required to make the Network Functional and shall provide respective documentation to IT Division.	
62	License	The license period shall have at least 03 years and will be calculated from the first day of system handover.	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer



