सिडिएस एण्ड क्लियरिङ्ग लिमिटेड
(नेपाल सरकारको स्वामित्व भएको)
CDS and Clearing Limited
(An Undertaking of Government of Nepal)

पत्र संख्या : २०८२/८३-११
चलानी नं. : ८४०

मिति:२०८२/१२/११

श्री सम्पूर्ण सेवा प्रदायक कम्पनीहरु,

बिषय: लागत अनुमान माग गरिएको बारे ।

महाशय,

यस लि.को डाटा सेन्टरमा प्रयोगको लागि VPN Firewall,Core Firewall,Edge Firewall, Storage,Server Switch ,SAN switch खरिद गर्नुपर्ने भएकोले संलग्न बमोजिमको specification अनुसारको उपकरण खरिदका लागि ५ दिन भित्र उपकरणको लागत पेश गर्नुहुन सम्बन्धित सेवा प्रदायकहरुका लागि यो सूचना जारी गरिएको छ ।

खरिद गर्नुपर्ने उपकरणको विवरण।

| Device	Qty
VPN Firewall	2
Core Firewall	2
Edge Firewall	3
Storage	2
Server Switch	4
SAN Switch	2

संलग्न:

१. उपकरणहरुको Specification- थान १

सुकीर्ति सुवेदी
अधिकृत-प्रशासन तथा जनशक्ति महाशाखा

Requirement for the Procurement of Firewall, Storage and Network Equipment for CDSC Data Center

Item No	Name of Goods or Related Service	Technical Specifications and Standards		Qty
1	Edge Firewall	**Global Recognition**	The proposed solution must be listed in the LEADERS in quadrant in the latest Gartner Magic Quadrant or LEADERS in Forrester's Latest Report for Hybrid Mesh Firewall. Vendors shall submit proof (public link or Gartner reprint)	3
		General Features	Should have dual redundant power supply from day 1	
			Should have minimum 240 GB or Higher SSD	
		Performance	Firewall Should be supplied with the following performance capacity from the day 1:	
			At least 70 Gbps Overall Firewall throughput.	
			At least 14 Gbps of IPS Throughput (Enterprise Mix with Logging Enabled)	
			At least 11.5 Gbps NGFW Throughput with Firewall, IPS and Application Control Enabled	
			10.5 Gbps Threat Protection Throughput with Firewall, IPS, Application control and Malware Protection Enabled	
			All throughputs shall be quoted under an application mix with IPS, AV/malware, URL filtering, and logging enabled. Vendors must attach official datasheet page references indicating test profile.	
			Should support minimum 7.5 million Concurrent session with TCP or 2.5 million concurrent sessions on HTTP.	
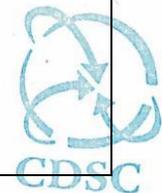
		Should support minimum 450,000 new sessions per second with TCP or 150,000 new session per second with HTTP.
	Interface	Firewall appliances should be supplied with at least 16 x 1G/10G RJ45/SFP/SFP+ mix and 8 x 10GE SFP+ (25G acceptable) Slots
		The proposed system shall have built-in high availability (HA) features without extra cost/license or hardware component. Should support Active/Active or Active/Passive
	Network and Security Features	Should support automatic ISP failover as well as ISP load sharing
		We should ensure efficient and optimal data flow and provide dynamic application routing across multiple WAN links to optimize performance and enhance network reliability.
		Solution should support SD WAN to intelligently route traffic based on policies, applications, and real-time network SLAs
		The Firewall should support Static, Policy Base, Identity based, Multicast routing, OSPF, OSPFv3, BGP4, ISIS, RIP
		Should support Link aggregation/LACP 802.3ad
		Should provide visibility into how network bandwidth is consumed to aid in troubleshooting network outages and have the capability to detect, monitor, prevent and block advanced malware related DoS & DDoS activity
		Should support build in logging and report capability, and the ability to integrate with SIEM using Syslog or APIs
	Warranty and Support	The proposed solution should be quoted with 3 years support from OEM for regular Signature Updates and 24x7 TAC Support along with license for all of

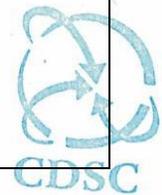|				
			the above-mentioned features including IPS/Threat, Application Control, Malware Protection and Advanced URL filtering.	
			The product should be bundled with firewall manager with OEM support activated.	
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.	
		Training	The Supplier should provide Hands on training of the supplied product with OEM certification to at least two CDSC Network Engineers.	
		Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)	
2	Core Firewall	Global Recognition	The proposed solution must be listed in the LEADERS in quadrant in the latest Gartner Magic Quadrant or LEADERS in Forrester's Latest Report for Hybrid Mesh Firewall. Vendors shall submit proof (public link or Gartner reprint)	2
		General Features	Should have dual redundant power supply from day 1	
			Should have minimum 240 GB or Higher SSD storage capacity	
		Performance	Firewall Should be supplied with the following performance capacity from the day 1:	
			At least 6 Gbps Threat Protection Throughput with Firewall, IPS, Application control and Malware Protection, file blocking, and logging features enabled. Vendors must attach official datasheet page references indicating test profile.	

		Should support minimum 4.2 million concurrent session with TCP or 1.4 million concurrent session on HTTP.
		Should support minimum 300,000 new session per second with TCP or 100,000 new session per second with HTTP.
	Interface	Firewall appliances should be supplied with at least at least 10 × 1/10G ports (any mix of RJ45/SFP/SFP+) and 8 × 10G SFP+ (or higher 25G) ports from day 1.
		The proposed system shall have built-in high availability (HA) features without extra cost/license or hardware component. Should support Active/Active or Active/Passive
	Network and Security Features	The proposed system should be able to block, allow or monitor only using AV signatures and file blocking based on per firewall policy based or based on firewall authenticated user groups with configurable selection of the following services: HTTP, FTP etc.
		The solution should be capable with zero-day threat protection utilizing sandboxing/anti-APT capabilities.
		The Threat protection methodologies should consist of:
		a) Signature based detection using real time updated database
		b) Anomaly based detection that is based on thresholds
		The solution shall provide automated configuration assessment/best-practice checks and proactive outbreak advisories.
		Should support build in logging and report capability, and the ability to integrate with SIEM using Syslog or APIs

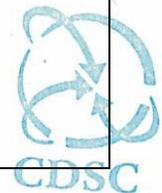|			
		Warranty and Support	The proposed solution should be quoted with 3 years support from OEM for regular Signature Updates and 24x7 TAC Support along with license for all of the above-mentioned features including IPS/Threat Protection, Application Control, Malware Protection.
			The proposed solution should support management, configuration, and reporting. If a separate solution is required for configuration and reporting, a centralized management and reporting system must be included as part of the bundle.
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.
		Training	The Supplier should provide Hands on training of the supplied product with OEM certification to at least two CDSC Network Engineers.
		Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)
3	VPN Firewall	Global Recognition	The proposed solution must be listed in the LEADERS quadrant in the latest Gartner Magic Quadrant for Hybrid Mesh Firewall.
		General Features	Should have dual redundant power supply from day 1
			Should have minimum 240 GB or Higher SSD storage capacity

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		Performance	Firewall Should be supplied with the following performance capacity from the day 1:
			Minimum 36 Gbps of IPsec VPN Throughput
			Minimum SSL VPN Throughput should have 3Gbps using RSA-2048 Certificate
			Should support minimum 500 Concurrent SSL VPN users
			Should support minimum 4 million new sessions per second with TCP, or 1.4 Million new second per second with HTTP.
		Interface	Minimum 8 x 10GE SFP+ Slots, 8 x 1GE RJ45, 4 x 1GE SFP Slots from day 1.
			The proposed system shall have built-in high availability (HA) features without extra cost/license or hardware component. Should support Active/Active or Active/Passive
		Network and Security Features	Should support automatic ISP failover as well as ISP load sharing
			Should support build in logging and report capability, and the ability to integrate with SIEM using Syslog or APIs
		Warranty and Support	The proposed solution should be quoted with 5 years support from OEM for regular Signature Updates and 24x7 TAC Support along with license for all of the above-mentioned features.
			The product should be bundled with firewall manager with OEM support activated.
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.

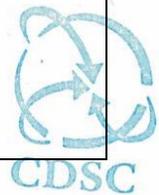|			
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.
		Training	The Supplier should provide Hands on training of the supplied product with OEM certification to at least two CDSC Network Engineers.
		Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)
4	SERVER SWITCH	Brand	To be mentioned by the bidder
		Model	To be mentioned by the bidder
		Hardware Architecture	The Switch Should have minimum 48x 10G SFP+ ports or higher and 4x40G QSFP+ Ports or higher for uplink/stacking. Should be populated with at least 24 X 10G SFP+ optical transceivers, 6xElectrical Transceiver and QSFP+ cable (1m) from the same OEM with required fiber patch cords(2m)
		Performance	The Switch system should support a minimum 2Tbps of switching capacity
			The Switch system should support a minimum 480 Mpps of forwarding capacity
		Features	The Switch system should support stacking feature from day 1.
			The Switch system should provide Port-based VLAN, MAC-based VLAN and VXLAN
			The Switch system should support static routing
			The Switch system should support class-based queuing with prioritization, Dynamic ARP Inspection, DHCP snooping

The quantity column for SERVER SWITCH shows: 4

			The Switch system should be manageable through CLI, Web Interface, SSHv2 and HTTP/HTTPs	
		Power Supply	The Switch system should have dual redundant hot swappable power supply from day 1	
		Warranty and Service Support	The proposed system Should be provided with minimum 3-year parts replacement and manufacturer service warranty	
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.	
		Training	The Supplier should provide Hands on training of the supplied product with OEM certification to at least two CDSC Network Engineers.	
		Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)	
5	**Unified Storage**	**Brand**	To be mentioned by supplier	2
		Model	To be mentioned by supplier	
		Form Factor	Rack mountable	
		Recognition	Proposed Storage should be from the provider which is being listed as a Leader in Gartner's magic quadrant for Enterprise Storage in its latest Report.	
		Hardware Redundant	Redundant hardware components for high availability. Should have Dual Redundant hot pluggable controllers and Power supplies, Fans, Management ports, Network Connectors etc.	
		RAID Options	Must have RAID (1/0, 5, 6) options Or Similar Disk protection features	

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Storage Management	Easy to use GUI based or web enabled administration interface for configuration storage management. Storage management alerting and reporting tools also should be bundled with the storage.	
High Availability and Disaster Recovery	Should have Dual Active / Active controller, should provide proven architecture that delivers 99.9999% availability. Should come with the license of DC-DR sync and Async replication for business continuity Disaster recover	
Cache memory	Should provide minimum 128 GB cache memory for each controller having total of 256 GB.	
Storage capacity and performance	It should come with minimum 120 TB or Higher Capacity of Usable Space. The 120TB Usable capacity should be calculated after configuring the high-performance TLC based NVMe disk with the following configuration:	
	-Must achieve the capacity with RAID-6 or equivalent or higher Disk Protection with 2 disk failure protection.	
	-Minimum 10% should be allocated for Snapshot	
	-Minimum 10% should be allocated for Overhead	
	-At least 2 System Disks	
	Should be a unified storage supporting file protocol NFS, CIFS /SMB, Block Protocol FC, iSCSI, NVMe, Object storage and necessary license should be included from day 1.	
	Should come with AI/ML-based Ransomware Detection, protection and Recovery feature required license should be activated from day 1.	
	Proposed storage should provide at least 800K IOPS from Day 1 with 80:20 Read Write and 4KB block size with sub millisecond latency. Bidder must attached	

			sizing / configuration document provided by OEM and must perform IO Meter test during PDI
			The proposed storage solution should be designed to support both Scale-Up and Scale-Out architectures, ensuring flexibility for future expansion. It must allow scaling out to at least 8 nodes. From day one, the system should include additional slots that can accommodate up to 150 TB of usable capacity when populated with disks of the same configuration type
		Connectivity	Should have unified fully redundant I/O ports that must support combination of FC / iSCSI ports. Connectivity must have automated I/O path failover, Automatic load balancing and path connectivity monitoring features.
			We should provide minimum 4 x 25Gbps iSCSI with required Cable, and 8 x 32 Gbps FC with cables and SFPs.
		Features Must Available	Cyber-vault capability that combines encryption, immutable backups, and air-gapped storage. Proposed storage should also have WORM features used to protect data from modification or deletion after the data is written once.
			Storage should also support Data at Rest and Data on fly encryption should support SIEM/ XDR integrations.
			Deduplication and compression features for storage efficiency
			Asynchronous mirroring for Volume replication of long distance to remote site mirroring.
			Should come with highest level of security and compliance compatibility for sensitive data. Should have a feature of multi-admin verification before executing sensitive commands must have Multifactor admin access functions.

		Warranty and Support	The proposed solution should be quoted with 5 years support from OEM and 24x7 TAC Support along with license for all the above-mentioned features
			The bidder should provide required Hands-on training for the Configuration, Operation and Management of the Product supplied.
			The bidder should complete the Migration of the Data from the existing Storage system to the Supplied System. The bidder should submit the proper migration plan to CDSC before installation & Commission of the system.
			The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.
		Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)
6	SAN Switch	Brand	To be mentioned by supplier	2
		Model	To be mentioned by supplier	
		Product Type	Fiber Channel SAN Switch	
		Activated Ports	Minimum 24 Activated Ports with 32 or Higher Gbps Speed	
		SFP Transceiver	Minimum 24x 32Gbps or Higher SFP+ Module	
		Switch Bandwidth	Up to **64Gbps FC per port** (backward compatible with 16Gb and 32Gb HBAs).	
		Port Speed	Minimum 64 Gbps (Should support 16/32/64 Gbps)	
		Addition Features	High-performance, low-latency SAN connectivity for all-flash arrays.	
			Advanced telemetry, automation, and analytics.	

		Simplified configuration and management.
		Designed for modern enterprise SANs requiring NVMe/FC.
	Power Supply	Dual Power Supply
	FC Cables	Minimum 24 LC-LC FC Cables
	Features	Full Fabric, Access Gateway, Advance Zoning, Advance Diagnostic tools, Adaptive Control (RBAC), SFTP, SSH v2
	Management Ports	Ethernet (RJ 45), RS-232, Serial Port (RJ 45), USB port
	Security	Switch authentication, LDAP, RADIUS, TACACS+, User defined Role-Based Access Control (RBAC), SFTP, SSHv2
	Form Factor	Rack Mount
	Manufacturer Authorization Letter/Form	Must provide manufacturer authorization letter/form Original Equipment Manufacturer (OEM)- it should be directly emailed to the CDSC's official email(info@cdsc.com.np)
	Warranty & License	3 Years Manufacturer Warranty for parts and service from OEM with 24x7x365 infrastructure management and support for all hardware and software components of the proposed solutions including updates and patches as well as technical support
		The vendor should provide hands-on training to CDSC's staff for operating the proposed system.
		The product shall be in active production and guaranteed not to reach End of Sale status for a minimum of five years.
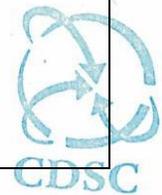
| | | | The vendor should provide local support for the configuration and management of the system at any point in time within the warranty & maintenance period. | |