

Technical Specification for Core Network Switch (I Unit) Procurement and Installation for Department of Survey
Compliance Checklist & Bid Response Sheet

BIDDER INSTRUCTIONS					
1. Complete the 'Compliance (Yes/No)' column for every item. Leave no field blank. 2. State the Attachment Number in 'Remarks/Attachment No' where a document is attached. 3. Attach OEM datasheets, compatibility matrices, certification copies, and the signed Turnkey Declaration with the bid submission.					
Category	Item	Sub Features	Minimum Specification	Compliance (Yes/No)	Remarks/Attachment No (If available)
1. General Features					
General Features	1.1	Make	(Please specify)		
	1.2	Model	(Please specify exact OEM part number)		
	1.3	Country of Origin	(Please specify)		
	1.4	Vendor Leadership	The vendor should be listed in the Gartner Magic Quadrant for Enterprise Wired and Wireless LAN Infrastructure as a Leader for at least any 3 of the last 5 years, or equivalent independent analyst recognition (e.g., IDC / Forrester), subject to TEC acceptance.		
	1.5	Local Deployments	Bidder should have a minimum of ten (7) successful local deployments of similar Core networking projects in Sri Lanka. Deployments must be Core / Aggregation layer projects (not access switches). Proof of experience must be provided via project completion certificates or reference letters.		
	1.6	Partnership Status	Bidder should hold the highest partnership status with the quoted OEM; proof of the partnership certification should be submitted.		
	1.7	Licensing Model	Base switching operating system and essential features must be perpetual (lifetime). A 5-year subscription for the OEM's cloud-based network management platform (e.g., Aruba Central, Cisco DNA, Juniper Mist) must be included. Optional advanced features may be subscription-based; bidder must clearly identify any features requiring separate licensing. separate pricing		
	1.8	Rack Mountable Size	The Switch should be 19 inch rack mountable 1U size (fixed form factor, non-modular chassis preferred).		
	1.9	Ports	Ports: Minimum 24 x 1/10G SFP+ ports (RJ45 combo optional) and 4 x ports supporting 25G/50G speeds (e.g., SFP28/SFP56). Higher speeds (40G/100G) are acceptable if available. All ports must support full line-rate forwarding.		
	1.10	Transceiver Requirement	Transceiver Requirement: All four (4) uplink ports must be populated with OEM-certified transceivers compatible with the existing Aruba CX 6300M core. OEM-Specific Part Numbers (Mandatory – 4 units): <ul style="list-style-type: none">• HPE Aruba: SFP56/SFP28 modules as per compatibility matrix• Cisco: 25G-SR-SFP28 or equivalent• Juniper: JNP-SFP-25G-SR 25G/50G module or equivalent• Other OEMs: Equivalent OEM-branded, warranty-compliant module. Third-party/compatible optics strictly prohibited. Bids quoting fewer than four (4) transceivers or uncertified third-party optics will be disqualified.		
2. Performance					
Performance	2.1	Switching Capacity	The Switch should have minimum of 600 Gbps Switching Capacity (non-blocking). 880 Gbps or higher preferred.		
	2.2	Switching Throughput	The Switch should have minimum of 500 Mpps Switching Throughput (non-blocking). 650 Mpps or higher preferred.		
	2.3	MAC Addresses	MAC Addresses: The Switch should support a minimum of 32,000 MAC addresses in hardware. 64,000 or higher preferred for future scalability.		
	2.4	VLAN IDs	The Switch should support minimum of 4094 VLAN IDs in hardware.		
	2.5	Stacking Performance	The Switch should have at least 200 Gbps full-duplex stacking bandwidth and support hitless stack member additions and removals. All required stacking cables/modules must be included in bid price. Stacking technology must be specified (e.g., Aruba VSF, Cisco StackWise). Note: VSF is only stacking technology compatible with existing CX 6300M. Bidder must explicitly confirm compatibility with existing core in a signed statement.		
	2.6	Stack Members	The switch should support 10 members in stack (minimum).		
	2.7	Link Aggregation Across Stack	The switch should support link aggregation (LACP) across the stack.		
	2.8	Distributed Forwarding Architecture	The Switch stack should use Distributed Forwarding Architecture with centralized control. Hitless In-Service Software Upgrade (ISSU) is preferred.		
	2.9	Centralized Control & Management	The Switch stack architecture should have centralized control and Management plane with Active Switch, and all information should be synchronized with Standby Switch (Stateful Switchover - SSO).		
	2.10	Stateful Switchover (SSO)	The Switch should support Stateful Switchover (SSO) when switching over from Active to Standby switch in a stack with sub-second failover.		
	2.11	Plug & Play Stacking	The Switch stack architecture should be Plug & Play for attaching or removing any switch from the stack without any downtime. All routing and switching functions must be hardware-based (ASIC) to ensure line-rate forwarding across all packet sizes.		
	2.12	IEEE 802.1D MAC Bridging	The Switch should support IEEE 802.1D MAC bridging in Spanning Tree Protocol.		
	2.13	Layer 2 Failover	The Switch should reserve interfaces or port channels to provide Layer 2 failover and manage redundancy when STP is not present.		
	2.14	IEEE 802.1p & 802.1Q	The Switch should support IEEE 802.1p VLAN tagging and IEEE 802.1Q Trunking.		
	2.15	Spanning Tree Protocol	The Switch must support both MSTP (IEEE 802.1s) and Rapid Per-VLAN Spanning Tree (RPVST+) with convergence time <1 second for both protocols. The switch must interoperate seamlessly with access layer switches running RPVST+ without requiring protocol translation or complex mappings.		
	2.16	QinQ Support	The switch must support QinQ tunneling (IEEE 802.1ad) with SVLAN/CVLAN stacking to transparently transport customer VLAN tags across the core infrastructure. Must support both selective QinQ (based on port or VLAN) and GVRP/MVRP dynamic VLAN registration.		
	2.17	Multi-vendor Inter-operability	The Switch should facilitate multi-vendor interoperability discovery tools (LLDP, CDP awareness) to identify physical topology information for network management and troubleshooting.		
	2.18	IEEE 802.1ax LACP	The switch should support IEEE 802.1ax Link Aggregation Control Protocol (LACP) across stack members and should be able to load balance traffic across links.		
	2.19	Deep Buffering	Minimum 8 MB shared packet buffering; 16 MB or higher preferred. Must be visible in OEM datasheet.		
	2.20	Routing Table Size (Hardware)	Minimum 16,000 IPv4 routes and 8,000 IPv6 routes in hardware (FIB). 32,000 IPv4 / 16,000 IPv6 preferred. All routes must be forwarded in hardware at line rate.		
	2.21	ARP Table Size	Minimum 16,000 ARP entries in hardware (32,000 preferred) to support large-scale deployments and prevent ARP flooding.		
3. Network Security & Advanced Routing Features					
Network Security Features	3.1	Loop-free Forwarding & IP Address Spoofing	The Switch should ensure loop-free forwarding of multicast packets in multicast routing and must help prevent IP address spoofing in unicast routing for IPv4 and IPv6 (uRPF).		
	3.2	IEEE 802.1X	The Switch should support IEEE 802.1X-2020 for user authentication, TLS 1.3, and dynamic segmentation. AI-driven threat detection integration preferred.		
	3.3	SSHv2 and SNMPv3	The Switch should support SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.		
	3.4	TACACS+ and RADIUS	The Switch should support TACACS+ and RADIUS authentication for centralized control of switch management access.		
	3.5	MAC Address Notification	The Switch should support MAC address notification to allow administration and monitoring.		
	3.6	MACsec and Encrypted Traffic Analytics	The Switch should support MACsec-256 (IEEE 802.1AE) on all access and uplink ports natively without requiring external adapters or additional licenses. Encrypted Traffic Analytics (ETA) preferred.		
	3.7	Security Vulnerability Identification & Upgrades	The switch should automatically identify vulnerabilities and apply patches via AI-driven policy enforcement (or vendor's automated update mechanism).		

Category	Item	Sub Features	Minimum Specification	Compliance (Yes/No)	Remarks/Attachment No (If available)
	3.8	Advanced Routing Protocols (Mandatory)	The switch must support the following routing protocols in hardware (no software-only routing): <ul style="list-style-type: none">• Static Routing• RIPv2• OSPFv2 and OSPFv3• BGP-4 support preferred for future scalability.• Policy-Based Routing (PBR) based on source/destination IP, protocol, or packet length• VRF-Lite (Virtual Routing and Forwarding) support for at least 8 instances to enable network segmentation (Guest/Corporate/Management/IoT)• Route redistribution between protocols (OSPF↔BGP, static↔dynamic)• Bidirectional Forwarding Detection (BFD) for sub-second failover (<50ms convergence) on all routing protocols. All routing features must be enabled without additional license cost.		
	3.9	Control Plane Policing (CoPP)	The switch must support Control Plane Policing to protect the CPU from DoS/DDoS attacks. Must allow rate-limiting of control plane traffic (BGP, OSPF, ICMP, SSH, SNMP) and prioritize critical protocols.		
	3.10	Tunnel Termination (UBT/GRE)	The switch must support termination of GRE/IPsec tunnels for User-Based Tunneling (UBT) use cases. Must support at least 1000 concurrent tunnel terminations with hardware acceleration.		
4. Management					
Management	4.1	Software Image & Configuration	The Switch should support automated/zero-touch configuration of software image and switch configuration.		
	4.2	Dedicated Management Port & USB 2.0	The Switch should have dedicated out-of-band management port (10/100/1000) and USB 2.0 ports to upload configuration files and images.		
	4.3	Diagnostic Commands	The Switch should support diagnostic commands (ping, traceroute, debug, packet capture) to troubleshoot issues.		
	4.4	System Health Checks	The Switch should support system health checks (temperature, voltage, fan, power supply status) with SNMP traps.		
	4.5	Command Line Interface (CLI)	The Switch should support industry-standard Command Line Interface (CLI) for configuration and troubleshooting.		
	4.6	Telnet and SSH Interface	The Switch should support Telnet and SSH interface for comprehensive in-band management.		
	4.7	Status LED and USB Port	The Switch should have front-panel status LEDs and USB port for file transfer.		
	4.8	SNMP and Telemetry	The switch should support SNMPv3, gNMI/gRPC telemetry, and sFlow v5. NetFlow v9 or IPFIX optional.		
5. Power Supply					
Power Supply	5.1	Redundancy	Power supply modules shall support N+1 redundancy with dual, hot-swappable internal power supplies. ENERGY STAR® compliance preferred.		
	5.2	Power Cords	UK type power cords (BS 1363) shall be included for each power supply.		
	5.3	Input Voltage	Input voltage: 100-240 VAC, auto-ranging.		
	5.4	Frequency	Frequency: 50/60 Hz.		
6. Warranty and Support					
Warranty and Support	6.1	Manufacturer Authorized Warranty	The bidder shall provide 5 years comprehensive manufacturer authorized warranty (hardware, software, and TAC support).		
	6.2	3-Year Maintenance Proposal	A maintenance proposal covering three years of support shall be provided following the warranty period. Separate pricing for Years 6, 7, 8 must be submitted in Price Schedule. Item 1.6–1.8 (Lot 1)		
	6.3	24/7 TAC Access	24/7 TAC access with 1-hour response for P1 incidents and 4-hour hardware replacement (global or regional escalation).		
	6.4	Hardware Replacement	Guaranteed 8x5 Next Business Day Delivery (for hardware replacement) during warranty.		
	6.5	Manufacturer Authorization Letter	Original Manufacturer Authorization Letter (MAL) from the quoted OEM, specific to this tender, must be provided as per format. Include the Cloud SKU confirmation		
	6.6	Vendor Technical Assistance	Vendor Technical Assistance: phone, fax, or email 24 hours a day, 365 days a year for product and troubleshooting support.		
	6.7	Operating System Software Updates	Operating system software updates included during warranty and maintenance periods.		
	6.8	Access to Vendor Resources	Should have access to vendor’s resources, communities, and tools related to the quoted product.		
7. Scope of Work (Core Switch Installation & Configuration)					
Scope of Work	7.1	Local Depot for RMA	Vendor should have a local depot for RMA in Sri Lanka with well-defined RMA process according to response times specified.		
	7.2	Certified Engineers	Bidder should have minimum two (2) certified engineers for quoted brand Core Switch (e.g., Aruba ACSP/ACCP, Cisco CCNP/CCIE, Juniper JNCIP/JNCIE). Certificates must be attached.		
	7.3	Procurement and Installation	This procurement is intended to procure, configure, and install a redundant core switch that operates in high availability (HA) mode with the existing HPE Aruba CX 6300M (USA) switch to enhance network resilience, performance, and reliability.		
	7.4	Redundancy Cluster Configuration	Configure redundancy protocol in both switches (Existing & Proposed) to function as a high availability cluster (VSF, VRRP, or equivalent).		
	7.5	SLA Requirements	The successful bidder must sign a Service Level Agreement (SLA) valid for the full 5-year warranty period. The SLA shall cover: Defined support response times based on issue severity, Hardware replacement timelines, 24x7 OEM technical escalation (TAC) access, Firmware and software update availability, and Clearly documented RMA procedures. In addition, the bidder shall provide a 3-year comprehensive maintenance proposal (Price Schedule Items 1.6–1.8) covering onsite diagnosis, OEM coordination, and replacement of faulty equipment using original or better components. The bidder will manage all RMA logistics and maintain required spare units locally to ensure minimal downtime. The SLA shall include AI-driven predictive failure analysis (if available) and 7-year firmware support commitment.		
	7.6	Additional Features	The offered switch model must be part of the manufacturer’s current enterprise campus switching portfolio and must be actively listed on the manufacturer’s official website with full technical documentation and datasheets publicly available.Please specify any additional features or functionalities that enhance the product offering. Separate pricing if applicable.		
Note – Interoperability Study					
	7.7	Mandatory Study	The existing core switch is HPE Aruba CX 6300M (USA). Before procurement, the vendor must conduct and submit a detailed interoperability and integration study covering: Hardware and firmware compatibility, High availability protocol alignment (VSF, VRRP), Performance and failover benchmarking (<1 second convergence), Synchronization and rollback readiness. This study is mandatory and will be evaluated with the technical specification. Evidence must include OEM compatibility matrix, test report, or formal letter from OEM confirming successful interoperability with HPE Aruba CX 6300M. Bids without this study will be rejected.		
Cloud Management Platform Licensing					
	7.8	Mandatory Requirement	Cloud Network Management Platform Licensing (5-Year Subscription) – The proposed solution must include a 5-year subscription license for the OEM’s cloud-based network management platform providing centralized configuration, monitoring, and firmware management. OEM-Specific Requirements: <ul style="list-style-type: none">• HPE Aruba: Correct Aruba Central Foundation 5-Year SKU for core switch model• Cisco: Cisco DNA Essentials 5-Year subscription• Juniper: Juniper Mist Wired Assurance 5-Year subscription• Other OEMs: Equivalent OEM-certified cloud management license with 5-year term. Pricing: Base 5-year license must be included in main bid price (Item 1.4 (Lot 1) of Price Schedule). Failure to include correct OEM cloud SKU will render bid non-responsive.The cloud management subscription must be valid for the full contract support period and must not be a trial or evaluation license		
Turnkey Completion Obligation					

Category	Item	Sub Features	Minimum Specification	Compliance (Yes/No)	Remarks/Attachment No (If available)
	7.9	Mandatory Declaration	<p>The bidder is responsible for delivering a fully operational, end-to-end 25G/50G connectivity between the proposed core switch and existing infrastructure (HPE Aruba CX 6300M). This obligation includes, but is not limited to:</p> <ul style="list-style-type: none">• Four (4) OEM-certified 25G SFP28 / 50G SFP56 transceivers (as specified in Item 1.10)• All required fibre patch cords (LC-LC, multi-mode OM3/OM4, appropriate lengths)• Any necessary media converters or interface adapters• Rack mounting hardware, power cords, console cables• Stacking cables/modules (if applicable). <p>Any item, whether explicitly listed or implied by operational necessity, that is required to establish functional 25G/50G connectivity shall be provided at no additional cost. Discovery of missing components during installation shall be remediated immediately by the vendor at vendor's sole expense. A signed declaration accepting this Turnkey Completion Obligation must be submitted with the bid. Failure to provide this declaration will result in disqualification.</p>		
8. Bid Validity Period & Delivery					
	8.1	Bid Validity Period	(Please specify in days; minimum 90 days required from bid submission deadline)		
	8.2	Delivery Period	(Please specify in weeks from contract award; maximum 8 weeks required)		

Contact Details for clarifications:

0112369244 / 01122587933 asstdirit@survey.gov.lk

Bidder's Signature :

Company Name & Seal