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இலங்கை மத்திய வங்கி
CENTRAL BANK OF SRI LANKA

ලේකම් දෙපාර්තමේන්තුව
செயலகத் திணைக்களம்
SECRETARIAT DEPARTMENT

අංක 30, ජනාධිපති මාවත, කොළඹ 01, ශ්‍රී ලංකාව
இல. 30, சனாதிபதி மாவத்தை, கொழும்பு - 01, இலங்கை
No. 30, Janadhipathi Mawatha, Colombo 01, Sri Lanka

DOCUMENT A
INVITATION FOR TENDER

09/04/111/2023/001   05 April 2024

Director/Manager

……………………………

Dear Sir/Madam,

TENDER FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

Sealed quotations are invited for the supply, delivery, installation, commissioning and maintenance of 35 Nos. of Network Switches and accessories for the Central Bank of Sri Lanka (CBSL) as follows.

Datacenter Core Switches	02
Datacenter TOR 10G Switches	04
Datacenter TOR 1G Switches	12
Building Core Switches	02
Building Access Switches	15
SFP-10G-SR-S Transceivers for Cisco WS-C3850-24XS Switch	12

1. **Eligibility Criteria:**

In order to be eligible to bid, the prospective bidder shall meet the following eligibility criteria.

1.1. Experience [Annex I (a)]

The tenderer must have at least two (02) projects on supplying and maintaining tendered brand of Network Switches, in Sri Lanka during the past five years ending on the 31 December 2023. Out of them, one project must be a datacenter network infrastructure project having ten (10) or more datacenter grade switches.

1.2. Qualifications [Annex I (b)]
- The tenderer shall be a company/firm registered in Sri Lanka which is valid at the time of bid closure.
- OEM of the proposed brand of switches must be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure in at least one year in the most recent three years reports. (2020/2021/2022).
- Tendered brand OEM should have a Return Merchandise Authorization (RMA) depot or Spare Pool depot based in Sri Lanka.
- The tenderer should be an authorized or certified partner/ reseller/ distributor/ agent of the proposed brand of network switches.
- Tenderer should have at least one (01) qualified Engineer for providing support and maintenance for the tendered brand of Network Switches having 2 years of experience in managing tendered brand of Network Switches deployed in a datacenter.

2. **Technical Specifications:**

Required minimum technical specifications are in Annex II.

3. **Price Schedule:**

The tenderers shall quote prices as per Annex III – Price Schedule. The price quoted inclusive of all local taxes should be in Sri Lanka Rupees (Rs.) and valid until 28 July 2024. The price shall remain unchanged during the validity period of the tender.

4. **Bid Guarantee:**

The tenderer should furnish a Bid Guarantee amounting to a sum of Rs. 1,500,000.00 valid until 27 August 2024 by way of a Bank Guarantee substantially in the form of Annex IV or a Bank Draft in favor of the Central Bank of Sri Lanka, obtained from a Licensed Commercial Bank operating in Sri Lanka. The Bid Guarantee shall be available at the time of the tender opening.

5. **Performance Guarantee:**

Within 14 days from the date of letter of award of the contract by the CBSL, the successful tenderer shall furnish a Performance Guarantee substantially in the form of Annex V in a sum equivalent to 10% of the total Contract Price for the due performance of the contract which should be valid for 394 days from the date of letter of award. Such Performance Guarantee shall be in the form of a Bank Guarantee issued in favor of the Central Bank of Sri Lanka obtained from a Licensed Commercial Bank operating in Sri Lanka and forwarded to the Secretary of the CBSL.

A successful tenderer who fails to provide the required Performance Guarantee as specified above shall be deemed to be disinterested in accepting the award, and the Bid Guarantee shall be forfeited.

6. **Delivery Period and Liquidated Damages:**

The successful tenderer shall supply the required items within 120 days from the date of the letter of award. Failure to deliver the required items within this period would render the supplier liable to pay liquidated damages at the rate of Rs. 150,000.00 per day of delay and such amounts will be deducted from the payment due to the supplier.

7. **Maintenance Services:**

The successful tenderer shall provide maintenance/configuration services of the equipment at no additional cost to the CBSL during the contract period. Maintenance should follow the following Service Levels.

Incident Category	Response Time	Resolution Time
Critical	Within 30 mins	Within 4 hours
High	Within 4 hours	Within 8 hours
Medium	Within 8 hours	Within 24 hours
Low	Within 24 hours	Within 48 hours

Incident Category Definitions

Critical:

Critical incidents are severe disruptions that significantly impact business operations. They require immediate attention and resolution.
Examples:
- Total network outage affecting critical services.
- Major security breach.
- Core switch failure.

High:

High incidents are significant disruptions that affect multiple users or services. They need prompt attention but are not as urgent as critical incidents.

Examples:

- Major performance degradation.
- Critical application slowdown.
- VLAN misconfiguration affecting a department.

Medium:

Medium incidents are moderate disruptions that impact specific users or services. They require attention within a reasonable timeframe.

Examples:

- Individual port failure.
- Non-critical application performance issues.
- Switch firmware upgrade.

Low:

Low incidents are minor disruptions that have minimal impact on overall operations. They can be addressed during regular maintenance windows.

Examples:

- Non-essential port flapping.
- Minor configuration changes.
- Routine switch maintenance.

8. **After Sales service requirements**:

The Bidders should have 24x7 call center support. The bidder should provide support and maintenance services for the tendered items 24x7 basis with on-site (Central Bank of Sri Lanka, No. 30, Janadhipathi Mawatha, Colombo 01.) support whenever requested by the CBSL.

9. **Payment Method:**

All payments will be subject to existing taxes as applicable in terms of the Inland Revenue Acts (No. 24 of 2017) and any subsequent amendments and notices issued by the Department of Inland Revenue, Sri Lanka. The conditions of the payments are as follows.

An amount equivalent to 90% of the cost will be paid after 14 days from the commissioning of the Network Switches, on the recommendation of the Director, Information Technology, CBSL and the balance 10% will be paid after 180 days subject to the satisfactory performance of tendered items/services.

10. **Document Requirements:**

Following information shall be furnished along with the bid:

i. Duly completed Form of Tender (Document B)
ii. Eligibility Report (Annex I (a), Annex I(b))
iii. Technical Specifications (Annex II)
iv. Price schedule (Annex III)
v. Duly completed Bid Guarantee (Similar to Annex IV)
vi. A Valid Manufacturer Authorization Letter and other documents as requested in Annexures.
vii. Company Registration

11. Selection Method:

    i.   The evaluation will be based on the least cost method subject to substantial compliance with Tender conditions and Technical Specifications.

    ii.   The CBSL reserves itself the right to accept any or reject any or all tender(s) or any part of the tenders received and is not bound to accept any tender/bid/offer merely on the basis that such is the lowest quotation. The decision of the CBSL shall be final regarding the award of the contract.

12. Submission of Bids and Tender Opening:

Duly perfected tender documents addressed to the Secretary, Central Bank of Sri Lanka, No. 30, Janadhipathi Mawatha, Colombo 01 should be:

    i.   Sent via email to **procsec@cbsl.lk** with a copy to **sec@cbsl.lk** in the form of password-protected PDF, with the subject PURCHASE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA (Please refer Annex VI for the guide on submitting documents via email) not later than 1400 hrs. on 29 April 2024.

    ii.   Tenders will be opened 30mins after closing the tenders on 29 April 2024 virtually via MS Teams and the bidders or their authorized representatives may join when the tenders are opened.

13. Contact Details:

For any further clarifications you may contact the following officer/s.

    i.   Assistant Secretary / Secretariat (Procurement Matters)   – 011 2 477 123

    ii.   Assistant Director / Information Technology (Technical Matters)   – 011 2 398 841

Yours faithfully

Sgd./ K N N M Bandara
Secretary
Central Bank of Sri Lanka

DOCUMENT B
FORM OF TENDER

To: Secretary
Central Bank of Sri Lanka
Tower 5, Level 11, Head Office Building
No.30, Janadhipathi Mawatha
Colombo 01.

TENDER FOR THE

SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

Having examined the Invitation to Tender and all other requirements indicated in the tender documents, I/ We .... of .... hereby offer to undertake supply, delivery installation, commissioning and maintenance of Network Switches for the Central Bank of Sri Lanka in accordance with the conditions and specifications indicated in the tender documents, at the rates quoted in the Price schedule (Annex III) within a period of 120 days from the date of letter of award for the total sum of Rupees .... (Rs. ....).

If my/our Tender is accepted I/we agree to furnish a Performance Guarantee in accordance with the tender documents in a sum equivalent to 10% of the total Contract Price for the due performance of the contract. Such Performance Guarantee shall be in the form of a Bank Guarantee or a Bank Draft in favor of the Central Bank of Sri Lanka obtained from a licensed commercial bank operating in Sri Lanka. The Performance Guarantee shall be valid for 394 days from the date of letter of award by the CBSL. I/We understand that my/our Tender together with your written acceptance thereof shall form a binding contract between us.

Dated this .... of .... Two Thousand and Twenty-Four.

Duly authorized to sign the bid for and on behalf of .... (Company name and address).

Name:

 ....

Designation:

 ....

Signature:

 ....   Official Seal: ....

ANNEX I -ELIGIBILITY CRITERIA

ANNEX I (a) – Experience

TENDER FOR THE
SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

- The tenderer must have at least two (02) projects on supplying and maintaining tendered brand of Network Switches, in Sri Lanka during the past five years ending on the 31 December 2023. Out of them, one project must be a datacenter network infrastructure project having ten (10) or more datacenter grade switches.

Name of the Company:
....

Tendered Brand			
Experience - Project 1 (Must be a datacenter network infrastructure project)			
Name of the Client Company			
Datacenter standard			
Date of Supply			
Make/Model(s) of datacenter switches			
Datacenter Switches Quantity			
Total project value			
Value of Datacenter Switches			
Company Contact Person	Name	Designation	Telephone No.
Experience - Project 2			
Name of the Client Company			
Date of Supply			
Make/Model(s)			
Quantity			
Total project value			
Value of Network switches			
Company Contact Person	Name	Designation	Telephone No.

Note:
- The bidder is required to attach the sales invoices or the necessary documentary proof for the above experiences.
- Please expand the form if more than two project details are required.

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ANNEX I -ELIGIBILITY CRITERIA

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ANNEX I (b) - QUALIFICATIONS

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Requirement	Required Proof Document	Reference to Proof Documents
The tenderer shall be a company/firm registered in Sri Lanka which is valid at the time of bid closure.	Company Registration	
OEM of the proposed brand of switches must be listed in Gartner Leader Quadrant for Wired and Wireless LAN Infrastructure in at least one year in the most recent three years reports. (2020/2021/2022).	Respective Gartner Reports	
Tendered brand OEM should have a Return Merchandise Authorization (RMA) depot or Spare Pool depot based in Sri Lanka.	Letter from OEM confirming the Local RMA Depot Location	
The tenderer should be an authorized or certified partner/ reseller/ distributor/ agent of the proposed brand of network switches.	Manufacturer Authorization Letter which is valid for the tendered period required	
Tenderer should have at least one (01) qualified Engineer for providing support and maintenance for the tendered brand of Network Switches having 2 years of experience in managing tendered brand of Network Switches deployed in a datacenter.	Valid certificates from OEM obtained by the Engineer	
	Involved project details	

Note:
- The bidder is required to attach the sales invoices or the necessary documentary proof for the above experiences.

ANNEX II -TECHNICAL SPECIFICATIONS

MINIMUM TECHNICAL SPECIFICATIONS FOR SUPPLY, DELIVERY, INSTALLATION,
COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES
FOR THE CENTRAL BANK OF SRI LANKA

[Note: The bidder must complete all the given tables as well as should submit the complete BOM received from original equipment manufacturer]

1. Datacenter Core Network Switches – 02 Nos.

Minimum Technical Specifications	Compliance (Yes/No)
Make	
Model	
Country of Origin	
Released Date	
End-of-Support	
Minimum Technical Specifications	
Hardware Features:	
Switch must be Enterprise Grade	
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.	
1U Rack height is preferred	
Switch should have 4 GB System Memory, 4 GB Flash, and 40 MB System Buffer	
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),	
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.	
Switch should have Redundant Fans for Air Cooling, and the Airflow Direction should be Front to Rear (Port Side Intake).	
The Air-Cooling Fans should be Field Replaceable or Hot-Swappable	
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.	
Interface: Ports with Transceivers	
Minimum GE Ports (100/1000 Base-T), for Category 5/6 Copper – **12 Nos**	
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules, (LC), 400m OM4 MMF – **24 Nos**	
Minimum 25GE Ports (SFP28) with Transceiver Modules, (LC), 100m OM4 MMF – **6 Nos**	
Minimum 40/100GE Ports (QSFP28) with Transceiver Modules, (LC), 100m OM4 MMF – **2 Nos**	
Dedicated stacking ports with 10m stacking cables – **2 Nos**. Or 100GE Ports and transceivers (QSFP28) with 10m AOC or DAC cables for stacking – **2 Nos.**	
Management Interface / Out of Band Management Port (RJ-45 Port)	
Console Port (RJ-45 or RS-232 serial port)	

USB Port	
Performance:	
Switch shall have minimum switching capacity of 2T	
Switch shall have minimum switch forwarding rate of 900Mpps	
Switch should handle minimum of 256K MAC Addresses and 4K active VLANs.	
Switch should support broadcast, Unicast and multicast storm control	
The switch should support IPv4/IPv6 multicast routing features with IGMP v1, v2 and IGMP snooping.	
Switch should support 9K byte Jumbo Ethernet frames	
Functionality:	
IEEE 802.1D (STP) Spanning Tree Protocol	
IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol	
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol	
IEEE 802.1x (NAC) Network Access Control	
IEEE 802.1x-Rev (Port-Based Network Access Control - Revision)	
IEEE 802.1p (QoS prioritization)	
IEEE 802.1Q (VLAN Tagging)	
IEEE 802.3ad (LACP) Link Aggregation Control Protocol	
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol	
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)	
IEEE 802.3x (flow control in full-duplex Ethernet LANs)	
IEEE 802.3 (10BASE-T specification)	
IEEE 802.3u (100BASE-TX specification)	
IEEE 802.3ab (1000BASE-T specification)	
IEEE 802.3az (Energy Efficient Ethernet)	
IEEE 802.3z (1000BASE-X specification)	
Features:	
Tagging or Trunking VLANs (Tagged VLAN)	
Grouping VLANs (VLAN Group)	
Limiting maximum number of VLAN to 4094 (4K VLAN)	
Port-based VLAN assignment (802.1Q)	
MAC-based VLAN assignment	
Multiple VLAN registration (MVRP 802.1Q)	
STP, RSTP, and MSTP to prevent and manage network loops	
BPDU protection, Root protection, and Loop protection	
LACP for Network reliability and Bandwidth increase	
Loopback Detection (LBD) and Configurable Recover Time for network ports	
Configurable MAC-IP bindings	
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)	
Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping	
LLDP for interoperability and neighbor discovery	

Analyzer port configuration for traffic monitoring of a single port and group of ports.	
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses	
Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
Management:	
The switch is configurable via SSH, Telnet or Console Port	
Parameters of the switch should be configurable using WEB based GUI.	
The switch should have an IP address (default) for initial configuration using either GUI or SSH.	
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.	
SNMP parameters should be configurable.	
Software Installation, Configuration, Backup, and Monitoring:	
The switch should be supplied with the latest firmware	
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.	
The switch should support monitoring through console port, management port, or through Ethernet port.	
Licensing, Warranty, and Maintenance Support:	
Licensing model of the proposed switches should be Perpetual.	
The switch should be covered with 3-year comprehensive OEM Warranty for hardware and software including maintenance, support, and updates.	
The Warranty period of the switch should be renewable for 4th, 5th, and 6th Year	
Proposed product should be supported by the OEM not less than next 5 years	
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.	
Regulatory Standards and Safety Compliance:	
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1, or equivalent	
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent	

2. **Datacenter 10G TOR Network Switches – 04 Nos**

Minimum Technical Specifications	Compliance (Yes/No)
Make	
Model	
Country of Origin	
Released Date	
End-of-Support	
Minimum Technical Specifications	
Hardware Features:	
Switch must be Enterprise Grade	
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.	
1U Rack height is preferred	
Switch should have 2 GB System Memory, 2 GB Flash	
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),	
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.	
Switch should have Redundant Fans for Air Cooling, and the Airflow Direction should be Rear to Front (Port Side exhaust).	
The Air-Cooling Fans should be Field Replaceable or Hot-Swappable	
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.	
Interface: Ports with Transceivers	
Minimum Multigigabit Ports (1G/2.5G/5G/10G Base-T) Modular Ports for Cat 6 Copper with Transceiver Modules – **40 Nos**	
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules, (LC), 400m OM4 MMF – **8 Nos**	
Minimum 25GE Ports (SFP28) with Transceiver Modules, (LC), 100m OM4 MMF – **2 Nos**	
Minimum 40/100GE Ports (QSFP28) with Transceiver Modules, (LC), 100m OM4 MMF – **2 Nos**	
Dedicated stacking ports with 0.5m stacking cables – **2 Nos**. Or 100GE Ports and transceivers (QSFP28) with 0.5m AOC or DAC cables for stacking – **2 Nos.**	
Management Interface / Out of Band Management Port (RJ-45 Port)	
Console Port (RJ-45 or RS-232 serial port)	
USB Port	
Performance:	
Switch shall have minimum switching capacity of 2T	
Switch shall have minimum switch forwarding rate of 450Mpps	
Switch should handle minimum of 32K MAC Addresses and 4K active VLANs.	
Switch should support broadcast, Unicast and multicast storm control	

The switch should support IPv4/IPv6 multicast routing features with IGMP v1, v2 and IGMP snooping.	
Switch should support 9K byte Jumbo Ethernet frames	
Functionality:	
IEEE 802.1D (STP) Spanning Tree Protocol	
IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol	
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol	
IEEE 802.1x (NAC) Network Access Control	
IEEE 802.1x-Rev (Port-Based Network Access Control - Revision)	
IEEE 802.1p (QoS prioritization)	
IEEE 802.1Q (VLAN Tagging)	
IEEE 802.3ad (LACP) Link Aggregation Control Protocol	
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol	
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)	
IEEE 802.3x (flow control in full-duplex Ethernet LANs)	
IEEE 802.3 (10BASE-T specification)	
IEEE 802.3u (100BASE-TX specification)	
IEEE 802.3ab (1000BASE-T specification)	
IEEE 802.3az (Energy Efficient Ethernet)	
IEEE 802.3z (1000BASE-X specification)	
IEEE 802.3bz (Multi rate 2.5G/5G specification)	
IEEE 802.3an (10G BASE-T specification)	
Features:	
Tagging or Trunking VLANs (Tagged VLAN)	
Grouping VLANs (VLAN Group)	
Limiting maximum number of VLAN to 4094 (4K VLAN)	
Port-based VLAN assignment (802.1Q)	
MAC-based VLAN assignment	
Multiple VLAN registration (MVRP 802.1Q)	
STP, RSTP, and MSTP to prevent and manage network loops	
BPDU protection, Root protection, and Loop protection	
LACP for Network reliability and Bandwidth increase	
Loopback Detection (LBD) and Configurable Recover Time for network ports	
Configurable MAC-IP bindings	
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)	
Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping	
LLDP for interoperability and neighbor discovery	
Analyzer port configuration for traffic monitoring of a single port and group of ports.	
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses	

Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
Management:	
The switch is configurable via SSH, Telnet or Console Port	
Parameters of the switch should be configurable using WEB based GUI.	
The switch should have an IP address (default) for initial configuration using either GUI or SSH.	
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.	
SNMP parameters should be configurable.	
Software Installation, Configuration, Backup, and Monitoring:	
The switch should be supplied with the latest firmware	
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.	
The switch should support monitoring through console port, management port, or through Ethernet port.	
Licensing, Warranty, and Maintenance Support:	
Licensing model of the proposed switches should be Perpetual.	
The switch should be covered with 3-year comprehensive OEM Warranty for hardware and software including maintenance, support, and updates.	
The Warranty period of the switch should be renewable for 4th, 5th, and 6th Year	
Proposed product should be supported by the OEM not less than next 5 years	
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.	
Regulatory Standards and Safety Compliance:	
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1 or equivalent	
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent	

3. Datacenter 1G TOR Network Switches – 12 Nos

Minimum Technical Specifications	Compliance (Yes/No)
Make	
Model	
Country of Origin	
Released Date	
End-of-Support	
Minimum Technical Specifications	
Hardware Features:	
Switch must be Enterprise Grade	
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.	
1U Rack height is preferred	
Switch should have 2 GB System Memory, 2 GB Flash	
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),	
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.	
Switch should have Redundant Fans for Air Cooling, and the Airflow Direction should be Rear to Front (Port Side exhaust).	
The Air-Cooling Fans should be Field Replaceable or Hot-Swappable	
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.	
Interface: Ports with Transceivers	
Minimum GE Ports (100/1000 Base-T), for Category 5/6 Copper – **40 Nos**	
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules, (LC), 400m OM4 MMF – **4 Nos**	
Dedicated stacking ports with 0.5m stacking cables – **2 Nos**. Or 100GE Ports and transceivers (QSFP28) with 0.5m AOC or DAC cables for stacking – **2 Nos.**	
Management Interface / Out of Band Management Port (RJ-45 Port)	
Console Port (RJ-45 or RS-232 serial port)	
USB Port	
Performance:	
Switch shall have minimum switching capacity of 176G	
Switch shall have minimum switch forwarding rate of 130Mpps	
Switch should handle minimum of 16K MAC Addresses and 4K active VLANs.	
Switch should support broadcast, Unicast and multicast storm control	
The switch should support Ipv4/Ipv6 multicast routing features with IGMP v1, v2 and IGMP snooping.	
Switch should support 9K byte Jumbo Ethernet frames	
Functionality:	
IEEE 802.1D (STP) Spanning Tree Protocol	

IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol	
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol	
IEEE 802.1x (NAC) Network Access Control	
IEEE 802.1x-Rev (Port-Based Network Access Control – Revision)	
IEEE 802.1p (QoS prioritization)	
IEEE 802.1Q (VLAN Tagging)	
IEEE 802.3ad (LACP) Link Aggregation Control Protocol	
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol	
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)	
IEEE 802.3x (flow control in full-duplex Ethernet LANs)	
IEEE 802.3 (10BASE-T specification)	
IEEE 802.3u (100BASE-TX specification)	
IEEE 802.3ab (1000BASE-T specification)	
IEEE 802.3az (Energy Efficient Ethernet)	
IEEE 802.3z (1000BASE-X specification)	
Features:	
Tagging or Trunking VLANs (Tagged VLAN)	
Grouping VLANs (VLAN Group)	
Limiting maximum number of VLAN to 4094 (4K VLAN)	
Port-based VLAN assignment (802.1Q)	
MAC-based VLAN assignment	
Multiple VLAN registration (MVRP 802.1Q)	
STP, RSTP, and MSTP to prevent and manage network loops	
BPDU protection, Root protection, and Loop protection	
LACP for Network reliability and Bandwidth increase	
Loopback Detection (LBD) and Configurable Recover Time for network ports	
Configurable MAC-IP bindings	
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)	
Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping	
LLDP for interoperability and neighbor discovery	
Analyzer port configuration for traffic monitoring of a single port and group of ports.	
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses	
Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
Management:	
The switch is configurable via SSH, Telnet or Console Port	
Parameters of the switch should be configurable using WEB based GUI.	
The switch should have an IP address (default) for initial configuration using either GUI or SSH.	
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.	

SNMP parameters should be configurable.	
Software Installation, Configuration, Backup, and Monitoring:	
The switch should be supplied with the latest firmware	
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.	
The switch should support monitoring through console port, management port, or through Ethernet port.	
Licensing, Warranty, and Maintenance Support:	
Licensing model of the proposed switches should be Perpetual.	
The switch should be covered with 3-year comprehensive OEM Warranty for hardware and software including maintenance, support, and updates.	
The Warranty period of the switch should be renewable for 4th, 5th, and 6th Year	
Proposed product should be supported by the OEM not less than next 5 years	
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.	
Regulatory Standards and Safety Compliance:	
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1 or equivalent	
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent	

4. Building Core Network Switches – 02 Nos

Minimum Technical Specifications	Compliance (Yes/No)
Make	
Model	
Country of Origin	
Released Date	
End-of-Support	
Minimum Technical Specifications	
Hardware Features:	
Switch must be Enterprise Grade	
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.	
1U Rack height is preferred	
Switch should have 4 GB System Memory, 4 GB Flash, and 32 MB System Buffer	
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),	
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.	
Switch should have Redundant Fans for Air Cooling, and the Airflow Direction should be Front to Rear (Port Side Intake).	
The Air-Cooling Fans should be Field Replaceable or Hot-Swappable	
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.	
Interface: Ports with Transceivers	
Minimum GE Ports (100/1000 Base-T), for Category 5/6 Copper – **16 Nos**	
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules, (LC), 400m OM4 MMF – **24 Nos**	
Minimum 25GE Ports (SFP28) with Transceiver Modules, (LC), 100m OM4 MMF – **2 Nos**	
Dedicated stacking ports with 10m stacking cables **– 2 Nos**. Or 100GE Ports and transceivers (QSFP28) with 10m AOC or DAC cables for stacking – **2 Nos.**	
Management Interface / Out of Band Management Port (RJ-45 Port)	
Console Port (RJ-45 or RS-232 serial port)	
USB Port	
Performance:	
Switch shall have minimum switching capacity of 2T	
Switch shall have minimum switch forwarding rate of 450Mpps	
Switch should handle minimum of 32K MAC Addresses and 4K active VLANs.	
Switch should support broadcast, Unicast and multicast storm control	
The switch should support IPv4/IPv6 multicast routing features with IGMP v1, v2 and IGMP snooping.	

Switch should support 9K byte Jumbo Ethernet frames	
Functionality:	
IEEE 802.1D (STP) Spanning Tree Protocol	
IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol	
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol	
IEEE 802.1x (NAC) Network Access Control	
IEEE 802.1x-Rev (Port-Based Network Access Control - Revision)	
IEEE 802.1p (QoS prioritization)	
IEEE 802.1Q (VLAN Tagging)	
IEEE 802.3ad (LACP) Link Aggregation Control Protocol	
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol	
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)	
IEEE 802.3x (flow control in full-duplex Ethernet LANs)	
IEEE 802.3 (10BASE-T specification)	
IEEE 802.3u (100BASE-TX specification)	
IEEE 802.3ab (1000BASE-T specification)	
IEEE 802.3az (Energy Efficient Ethernet)	
IEEE 802.3z (1000BASE-X specification)	
Features:	
Tagging or Trunking VLANs (Tagged VLAN)	
Grouping VLANs (VLAN Group)	
Limiting maximum number of VLAN to 4094 (4K VLAN)	
Port-based VLAN assignment (802.1Q)	
MAC-based VLAN assignment	
Multiple VLAN registration (MVRP 802.1Q)	
STP, RSTP, and MSTP to prevent and manage network loops	
BPDU protection, Root protection, and Loop protection	
LACP for Network reliability and Bandwidth increase	
Loopback Detection (LBD) and Configurable Recover Time for network ports	
Configurable MAC-IP bindings	
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)	
Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping	
LLDP for interoperability and neighbor discovery	
Analyzer port configuration for traffic monitoring of a single port and group of ports.	
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses	
Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
Management:	
The switch is configurable via SSH, Telnet or Console Port	
Parameters of the switch should be configurable using WEB based GUI.	

The switch should have an IP address (default) for initial configuration using either GUI or SSH.	
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.	
SNMP parameters should be configurable.	
Software Installation, Configuration, Backup, and Monitoring:	
The switch should be supplied with the latest firmware	
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.	
The switch should support monitoring through console port, management port, or through Ethernet port.	
Licensing, Warranty, and Maintenance Support:	
Licensing model of the proposed switches should be Perpetual.	
The switch should be covered with 3-year comprehensive OEM Warranty for hardware and software including maintenance, support, and updates.	
The Warranty period of the switch should be renewable for 4th, 5th, and 6th Year	
Proposed product should be supported by the OEM not less than next 5 years	
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.	
Regulatory Standards and Safety Compliance:	
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1 or equivalent	
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent	

5. Building Access Network Switches – 15 Nos

Minimum Technical Specifications	Compliance (Yes/No)
Make	
Model	
Country of Origin	
Released Date	
End-of-Support	
Minimum Technical Specifications	
Hardware Features:	
Switch must be Enterprise Grade	
Switch should be rack mountable and should be provided with mounting brackets, and support side rails if required.	
1U Rack height is preferred	
Switch should have 512M System Memory, 256 M Flash	
The switch should have Redundant Power Supplies and be bundled with power cables featuring IEC13-IEC14 connectors (C13-C14 Connectors),	
The Switch Power Supply should feature with Rated AC Voltage Range between 100V to 240V and 50Hz to 60Hz AC Frequency.	
Switch should have Redundant Fans for Air Cooling, and the Airflow Direction should be Front to Rear (Port Side Intake).	
The Air-Cooling Fans should be Field Replaceable or Hot-Swappable	
Switch should support stacking technology for scalability, redundancy, and management. Necessary Stack Cables and Related Accessories Should be provided with the Switch.	
Stack Cable of Length 0.5m - Stack Wise Cable, Direct Attached Cable (DAC), or Active Optical Cables (AOC)	
Interface: Ports with Transceivers	
Minimum GE Ports (100/1000 Base-T), for Category 5/6 Copper – **48 Nos**	
Minimum 10GE Ports (SFP / SFP+) with Transceiver Modules, (LC), 400m OM4 MMF – **4 Nos**	
Management Interface / Out of Band Management Port (RJ-45 Port)	
Console Port (RJ-45 or RS-232 serial port)	
USB Port	
Performance:	
Switch shall have minimum switching capacity of 176G	
Switch shall have minimum switch forwarding rate of 130Mpps	
Switch should handle minimum of 16K MAC Addresses and 265 active VLANs.	
Switch should support broadcast, Unicast and multicast storm control	
The switch should support IPv4/IPv6 multicast routing features with IGMP v1, v2 and IGMP snooping.	
Switch should support 9K byte Jumbo Ethernet frames	
Functionality:	
IEEE 802.1D (STP) Spanning Tree Protocol	

IEEE 802.1w (RSTP) Rapid Spanning Tree Protocol	
IEEE 802.1s (MSTP) Multiple Spanning Tree Protocol	
IEEE 802.1x (NAC) Network Access Control	
IEEE 802.1x-Rev (Port-Based Network Access Control - Revision)	
IEEE 802.1p (QoS prioritization)	
IEEE 802.1Q (VLAN Tagging)	
IEEE 802.3ad (LACP) Link Aggregation Control Protocol	
IEEE 802.1ab (LLDP) Link Layer Discovery Protocol	
IEEE 802.3ae (MAC Parameters, Physical Layer, and Management Parameters for 10 Gb/s Operation)	
IEEE 802.3x (flow control in full-duplex Ethernet LANs)	
IEEE 802.3 (10BASE-T specification)	
IEEE 802.3u (100BASE-TX specification)	
IEEE 802.3ab (1000BASE-T specification)	
IEEE 802.3az (Energy Efficient Ethernet)	
IEEE 802.3z (1000BASE-X specification)	
Features:	
Tagging or Trunking VLANs (Tagged VLAN)	
Grouping VLANs (VLAN Group)	
Limiting maximum number of VLAN to 4094 (4K VLAN)	
Port-based VLAN assignment (802.1Q)	
MAC-based VLAN assignment	
Multiple VLAN registration (MVRP 802.1Q)	
STP, RSTP, and MSTP to prevent and manage network loops	
BPDU protection, Root protection, and Loop protection	
LACP for Network reliability and Bandwidth increase	
Loopback Detection (LBD) and Configurable Recover Time for network ports	
Configurable MAC-IP bindings	
Type of Service (TOS) and Differentiated Services Code Point (DSCP) marking (802.1p)	
Dynamic Host Configuration Protocol (DHCP) client, DHCP server, and DHCP snooping	
LLDP for interoperability and neighbor discovery	
Analyzer port configuration for traffic monitoring of a single port and group of ports.	
Proposed switch should have capability to disable per-VLAN MAC learning to manage MAC address table space by controlling which interfaces or VLANs learn MAC addresses	
Proposed switch should support 802.1X features to control access to the network, including flexible authentication, 802.1X monitor mode, and RADIUS change of authorization	
Management:	
The switch is configurable via SSH, Telnet or Console Port	
Parameters of the switch should be configurable using WEB based GUI.	
The switch should have an IP address (default) for initial configuration using either GUI or SSH.	
The switch should be SNMP manageable as per the standard SNMP ver1, ver2 and/or ver3.	

SNMP parameters should be configurable.	
Software Installation, Configuration, Backup, and Monitoring:	
The switch should be supplied with the latest firmware	
The switch should support TFTP / FTP for switch image upgrade, configuration, and configuration backup.	
The switch should support monitoring through console port, management port, or through Ethernet port.	
Licensing, Warranty, and Maintenance Support:	
Licensing model of the proposed switches should be Perpetual.	
The switch should be covered with 3-year comprehensive OEM Warranty for hardware and software including maintenance, support, and updates.	
The Warranty period of the switch should be renewable for 4th, 5th, and 6th Year	
Proposed product should be supported by the OEM not less than next 5 years	
The tenderer must allocate a product certified Engineer to perform the maintenance and support activities.	
Regulatory Standards and Safety Compliance:	
Safety Standards: UL 60950-1, EN 60950-1, IEC 60950-1, EN 62368-1 or equivalent	
Environmental Compliance: RoHS Directive (2011/65/EU) EN 50581 or Equivalent	

ANNEX III - PRICE SCHEDULE

PRICE SCHEDULE
TENDER FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

Item Description	Required Quantity (a)	Unit Price* (USD) (b)	Unit Price (Rs.) (c)	Total Price (Rs.) (a x c) (d)
Datacenter Core Switches	02			
Datacenter TOR 10G Switches	04			
Datacenter TOR 1G Switches	12			
Building Core Switches	02			
Building Access Switches	15			
SFP-10G-SR-S Transceivers for Cisco WS-C3850-24XS Switch	12			
Other costs (if any)				
Subtotal without Taxes (Rs.)				
SSCL(Rs.)				
VAT (Rs.)				
Other Taxes (Rs.)				
Grand Total (Sum of Column d)				
OPTIONAL ITEMS				

Note: The price quoted should be based on the prevailing Government Levies.

* USD prices will be used only for indicative purposes and will not be considered for evaluation.

Total price including taxes (in words)

_____

_____

_____

VAT Registration No (If any) –

_____

The successful tenderer shall submit a copy of VAT Registration Certificate (if any).

_____   _____   _____

Authorized Officer's Name   **Designation**   **Signature**

_____   _____

Company Seal   **Date**

Annex IV

BID GUARANTEE
TENDER FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

Beneficiary: The Central Bank of Sri Lanka
                         No: 30, Janadhipathi Mawatha
                         Colombo 01.

WHEREAS <Name of the Service Provider/Joint Venture> of <Address of the Service Provider > (hereinafter referred to as "the Tenderer") has tendered for the <Name of Tender> for the Central Bank of Sri Lanka (hereinafter referred to as "the Purchaser") of No. 30, Janadhipathi Mawatha, Colombo 01.

AND WHEREAS in terms of the invitation to the Tender, the Tenderer is required to furnish to the Purchaser a Bank Draft/Bank Guarantee obtained from a licensed commercial bank operating in Sri Lanka in a sum of <Amount in Rs............ > (In word) as security for the due observance by the Tenderer of the Conditions of the Tender.

NOW THIS WRITING WITNESSETH that we <Name of the Bank which issued the Bid Guarantee> having our registered place of business at <Address of the Bank that issue the Bid Guarantee> (hereinafter referred to as "the Bank") do hereby guarantee, undertake, bind and oblige ourselves that in the event of the Tenderer,

   (a) withdrawing the Tender at any time after the opening of Tenders; or
   (b) failing to execute an Agreement as stipulated in the Conditions of Tender, and/or to furnish security for the due performance of the contract as required under the Conditions of Tender in the event the Tender is awarded to the Tenderer,

the Bank shall and will pay to the said Purchaser a sum not exceeding the total of < Amount of the Guarantee in words> (In numerically) on demand and without cavil or argument and without the Purchaser having to prove or show grounds or reason for the demand for the sums specified therein. We hereby waive the necessity of the Purchaser demanding the said sum from the Tenderer before presenting us with the said demand.

WE FURTHER AGREE that no change or addition to or other modification which may be agreed between the Purchaser and the Tenderer shall in any way release us from the liability under this Guarantee and we hereby waive notice of any such change addition or modification.

THIS GUARANTEE is valid and in full effect until 27 August 2024.

Seal of the Guarantor
and authorized signature

Date: ....

Annex V

PERFORMANCE GUARANTEE
TENDER FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

Beneficiary: The Central Bank of Sri Lanka
                 No: 30, Janadhipathi Mawatha
                 Colombo 01.

WHEREAS <Name of the Service provider> having its registered office at <Address of the Service provider> (hereinafter referred to as "the service provider") has been awarded a contract for <Name of Tender> to the Central Bank of Sri Lanka by the letter of award dated <DD/MM/YYYY > and has entered into a contract with the said Central Bank of Sri Lanka for such purpose.

AND WHEREAS it is a condition of the said contract that a Bank Guarantee from a licensed commercial bank acceptable to the said Central Bank of Sri Lanka be furnished as a security for the due performance in accordance with the conditions of Bids.

AND WHEREAS we have agreed to furnish such a Bank Guarantee.

NOW THEREFORE we <Name of the Bank which issue the Bank Guarantee> having our registered office at <Address of the Bank that issue the Bank Guarantee> hereby affirm confirm and undertake that we are responsible to the Central Bank of Sri Lanka under this Guarantee up to a total of Sri Lankan Rupees <Amount of the Guarantee in words> (In figures) and undertake to pay you upon your first written demand signed by the <Secretary/ Relevant Department Head/ Authorized officer> of the Central Bank and without cavil or argument, any sum or sums within the limit of Sri Lanka Rupees <Amount of the Guarantee in words> (In numerically) as aforesaid without you having to prove or show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said sum from the service provider before presenting us with the demand.

We further agree that no change or addition or other modification of the terms of the contract or of the works to be performed there under or of the Bid Documents which may be made between you and the service provider shall in any way release us from any liability under this guarantee and we hereby waive notice of such change addition or modification.

This Guarantee is valid and in full effect for 394 days from the date of the letter of award/acceptance.

Authorized Signature and seal of the Guarantor:

Date:

Annex VI

TENDER FOR THE SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA

INSTRUCTIONS FOR SUBMITTING THE TENDER DOCUMENTS VIA EMAIL

1. The subject of the email should be SUPPLY, DELIVERY, INSTALLATION, COMMISSIONING AND MAINTENANCE OF NETWORK SWITCHES FOR THE CENTRAL BANK OF SRI LANKA.
2. The maximum file size should be less than 10MB. If the bid documents exceed this size, separate emails could be sent with the relevant name of the procurement followed by the version of the email (e.g.: <Name of the bid> 1 of 2, <Name of the bid> 2 of 2)
3. All PDFs should be password-protected, and the password shall be sent only after the closing of the bid and within 30 minutes of bid closure.
4. The bidders shall provide the contact details (email) of their authorized representatives in the body of the email in order for the CBSL to send the invitation to the virtual bid opening meeting.
5. The original copy of the bid guarantee shall be submitted to the Central Bank to be received by the Secretary/Department Head within 7 days from the closing date of the bid.
6. Any concerns/issues regarding the submission of the documents shall be informed before the deadline of the submission of the documents as late bids will not be accepted.