

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)  
BANGALORE**

**Tender for Switches for Mission Network**

**Bids to be submitted online**

**Tender No.: ISTRAC/ISTRAC PURCHASE/TR202100013701 dated 20-09-2021**

## **A. Tender Details**

Tender No : **ISTRAC/ISTRAC PURCHASE/TR202100013701**

Tender Date : **20-09-2021**

Tender Classification: **GOODS**

Purchase Entity : **ISTRAC PURCHASE**

Centre : **ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)**

### **Procurement of Switches for Mission Network**

Please provide your compliance specifically for the following: (a) Security Deposit clause (b) Performance Bank Guarantee clause (c) DELAY IN COMPLETION / LIQUIDATED DAMAGES

#### **A.1 Tender Schedule**

Bid Submission Start Date : **20-09-2021 17:30**

Bid Clarification Due Date : **22-10-2021 16:03**

Bid Submission Due Date : **01-11-2021 17:00**

Bid Opening Date : **02-11-2021 10:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER**

1. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

2. a) Your offer should be valid for 120 days from the date of opening of the tender. b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

3. The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

4. Please provide your compliance for Security Deposit, Performance Bank Guarantee and Liquidated Damages Clause.

5. CUSTOMS DUTY : This office is eligible for Concessional Customs Duty @ 5.5% against Ministry of Finance, Department of Revenue, Government of India, vide Customs Notification No.51/96-Cus Dated 23-07-1996 (Sl.No.1) and amended under Notification No.93/96 dated 11th December 1996 and 24/2002 dated 01-03-2002

6. GST : This office is eligible for Concessional GST @ 5% against Ministry of Finance, Department of Revenue Notification No. 45/2017, Central Tax (Rate) and No. 47/2017, Integrated Tax (Rate) dated 14-11-2017.

7. It is to be noted that either Customs Duty or GST is applicable ( any one)

8. If the IGST is applicable, the same will be reimbursed if it is reflected in Bill Of Entry. Proof shall be provided while claiming payment.

9. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine, security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

10. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

#### 11. TERMS & CONDITIONS OF TENDER

12. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

13. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

14. The authority of the person signing the tender, if called for, should be produced.

15. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

16. a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes

to specifications with appropriate response for the same.

17. The tenderer should supply along with his tender, the name of his bankers as well as the latest Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

18. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

19. The term Purchaser shall mean the President of India or his successors or assigns.

20. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

21. ACCEPTANCE OF STORES: (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost. (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final. (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor. (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

22. REJECTED STORES: Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

23. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

24. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear

Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by them in accordance with the Contract.

**25. PACKING FORWARDING & INSURANCE:** The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

**26. GUARANTEE & REPLACEMENT:** (a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance. (b) Warranty shall be for the period mentioned in the tender document. After the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within the warranty period, by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty. (c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of warranty from the date of acceptance thereof. (d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores. (e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of warranty or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor. (f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

**27. SETTLEMENT OF DISPUTES :** Except as otherwise specifically provided in the contract, all disputes concerning question of fact arising under the Contract shall be decided by the Purchaser subject to a written appeal by the Contractor to the Purchaser whose decision shall be final to the parties hereto. Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the Contract shall be, to the extent possible, settled amicably between the parties. If amicable settlement cannot be reached, then all disputes shall be settled by arbitration.

**28. ARBITRATION :** All disputes, differences, claims and demands arising under or pursuant to or

touching this agreement shall be referred to Arbitration of a sole Arbitrator to be appointed by the Director, ISTRAC, whose decision/award will be final and binding on both the parties. Such arbitration shall be held in Bangalore and shall be subject to and governed by the provisions of the Arbitration and Conciliation Act of 1996 or any statutory modification or re-enactment thereof. The language to be used in Arbitration is English only.

29. JURISDICTION : The contract/ purchase order shall be governed by an interpreted and construed in accordance with the laws of India. The courts situated at Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute arising out of contract/ purchase order.

## **2. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM**

1. Conditions for online submission of tenders:

- a) It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eproc.vssc.gov.in/home.html> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.
- b) Vendors who are already registered in the existing EGPS software of ISRO, please register by clicking the link in the email you would have already received from 'eproc@vssc.gov.in'. After registration, do the profile update by login to this portal.
- c) For new vendors, who are not registered in the existing EGPS software, vendor registration will be released along with the portal release. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.
- d) OEM details should be added in your E-Procurement profile under Add Agent/Principal without fail.

2. a) Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.
- b) Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page.
- c) The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.
- d) Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

3. Procedure for seeking clarifications/help for the tender:

- a) All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.
- b) Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: [eproc@vssc.gov.in](mailto:eproc@vssc.gov.in) and Phone: +91471 2565454/4574/2527/3753/3289).

4. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

5. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

### **3. CERTIFICATE OF UNDERTAKING**

1. GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISTRAC, BENGALURU: 560 058.

2. Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 - reg.

#### **3. REQUIREMENT OF REGISTRATION:**

4. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. (Competent authority is : DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT).

5. BIDDER (including the term tenderer, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

6. Bidder from a country which shares a land border with India for the purpose means:

(a)An entity incorporated, established or registered in such a country; or

(b)A subsidiary of an entity incorporated, established or registered in such a country; or

(c)An entity substantially controlled through entities incorporated, established or registered in a such a country; or

(d)An entity whose beneficial owner is situated in such a country; or

(e)An Indian (or other) agent of such an entity; or

(f)A natural person who is a citizen of such a country; or

(g)A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.



7. The beneficial owner for the purpose of (6) above will be as under:

8. i) In case of a company or Limited Liability Partnership, the beneficial owner is a natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

9. Explanation:

(a) Controlling Ownership interest means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

10. (b) Control shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

11. ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of capital or profits of the partnership.

12. iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

13. iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

14. v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

15. An AGENT is a person employed to do any act for another, or to represent another in dealings with third person.

16. A certificate from the bidder shall be enclosed along with their quotation (Technical bid) as per the format enclosed.

17. (TO BE PRINTED ON THE LETTER HEAD OF THE VENDOR)

18. CERTIFICATE

19. Ref:Tender No \_\_\_\_\_ date \_\_\_\_\_

Our Quotation No. \_\_\_\_\_ date \_\_\_\_\_

20. (i).I/WE \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I / We \_\_\_\_\_ Certify that this bidder is not from such a country.

21. OR\*  
I/We \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India.

22. I / We \_\_\_\_\_ Certify that this bidder is from such a country and registered with the Competent Authority (i.e. Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Copy of Registration Certificate is enclosed.

23. (ii).I/We hereby confirm that the country of origin of goods is \_\_\_\_\_

24. (iii).I/We \_\_\_\_\_ hereby undertake that if the Certificate is found to be false at any given time ISRO/ISTRAC may treat this as a ground for immediate termination and further legal action in accordance with law can be initiated.

25. SIGNATURE:

26. NAME:

27. DESIGNATION:

28.

COMPANY NAME AND SEAL:

29. ( \* Strike out whichever is not applicable).

## C. Bid Templates

### C.1 Technical Bid - Switches for Mission Network

#### 1. NETWORKING ELEMENTS Switches in Config-1

#### 2. NETWORKING ELEMENTS Switches in Config-3

#### 3. NETWORKING ELEMENTS Switches in Config-2

#### Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
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1	Configuration-A Switches	<ul style="list-style-type: none"> <li>• All the delivered hardware shall be 19 Inch Rack mountable. Required Cable management arms and brackets shall be part of deliverable.</li> <li>• Switch Form Factor= Maximum 2U</li> <li>• Each switch shall be offered with following configuration               <ul style="list-style-type: none"> <li>o 1G Ethernet Port = 24 Nos</li> <li>o 1/10 Gbps SFP+ uplink ports = 4 Nos</li> </ul> </li> <li>• Following Transceivers shall be loaded in the switch               <ul style="list-style-type: none"> <li>o 1G SFP LX (upto 10 KM) =2 Nos.</li> </ul> </li> <li>• SFPs offered shall be of same make as switch OEM</li> <li>• Offered switch should capable to support a future upgrade to 2 * 25Gbps uplink module</li> <li>• Minimum Switching capacity 148 Gbps (Excluding Stacking Bandwidth)</li> <li>• Minimum Throughput 110 million pps (Excluding Stacking Bandwidth)</li> <li>• Offered switch shall be fully non-blocking architecture</li> </ul>	Yes / No / Explain		
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2	Configuration-B Switches	<ul style="list-style-type: none"> <li>• All the delivered hardware shall be 19 Inch Rack mountable. Required Cable management arms and brackets shall be part of deliverable.</li> <li>• Switch Form Factor= Maximum 2U</li> <li>• Each switch shall be offered with following configuration <ul style="list-style-type: none"> <li>o 1G Ethernet Port = 48 Nos</li> <li>o 1/10 Gbps SFP+ uplink ports = 4 Nos</li> </ul> </li> <li>• Following Transceivers shall be loaded in the switch <ul style="list-style-type: none"> <li>o 10G (LR)SFP+ (Upto 10 KM) = 2 Nos</li> <li>o 1G (LX)SFP (Upto 10 KM) = 2 Nos</li> </ul> </li> <li>• SFPs offered shall be of same make as switch OEM</li> <li>• Offered switch should capable to support a future upgrade to 2 * 25Gbps uplink module</li> <li>• Minimum Switching capacity 196 Gbps (Excluding Stacking Bandwidth)</li> <li>• Minimum Throughput 145.82 million pps (Excluding Stacking Bandwidth)</li> <li>• Offered switch shall be fully non-blocking architecture</li> </ul>	Yes / No / Explain		
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3	Configuration-C Switches	<ul style="list-style-type: none"> <li>• All the delivered hardware shall be 19 Inch Rack mountable. Required Cable management arms and brackets shall be part of deliverable.</li> <li>• Switch Form Factor= Maximum 2U</li> <li>• Each switch shall be offered with following configuration <ul style="list-style-type: none"> <li>o 10G Ethernet Port = 24 Nos</li> <li>o 40 Gbps QSFP+ uplink ports = 2 Nos</li> </ul> </li> <li>• Following Transceivers shall be loaded in the switch <ul style="list-style-type: none"> <li>o 40 GBPS QSFP+ SR BiDi LC =2 Nos.</li> </ul> </li> <li>• SFPs offered shall be of same make as switch OEM</li> <li>• Minimum Switching capacity 640 Gbps (Excluding Stacking Bandwidth)</li> <li>• Minimum Throughput 473 million pps (Excluding Stacking Bandwidth)</li> <li>• Offered switch shall be fully non-blocking architecture</li> </ul>	Yes / No / Explain		
4	General Specification (Applicable for all configuration)-1	<ul style="list-style-type: none"> <li>• Trunking: -Maximum ports per trunk: 8, Maximum trunk groups: 4</li> <li>• The offered switches shall be hardware ready for SDN support</li> <li>• Support for PTP and NTP</li> <li>• Switch shall offer openflow V1.0/V1.3 or equivalent</li> </ul>	Yes / No / Explain		

5	General Specification (Applicable for all configuration)-2	<p>Layer 2 Features</p> <ul style="list-style-type: none"> <li>• VLAN support and tagging</li> <li>• 802.1s Multiple Spanning Tree Protocol</li> <li>• 802.1X Authentication</li> <li>• MAC-Layer Filtering</li> <li>• Port Security - MAC Learning Disable</li> <li>• Jumbo packet support, Max Size=9000 Bytes</li> <li>• Rapid Per-VLAN Spanning Tree (RPVST+)</li> <li>• Switch shall offer minimum of 4000 VLAN</li> </ul>	Yes / No / Explain		
6	General Specification (Applicable for all configuration)-3	<p>Layer -3 Features</p> <ul style="list-style-type: none"> <li>• VRF / VRF-lite</li> <li>• BGP, OSPF and IS-IS Routing</li> <li>• VRRP/VRRP-E/HSRP</li> <li>• Multicast Routing</li> <li>• Generic Routing Encapsulation (GRE)</li> <li>• Switch should support minimum 16 VRF instances with route leaking functionality</li> <li>• Switch should be able to support sub-interfaces</li> <li>• Switch should support open standards based EVPN to support VXLAN based overlay network for layer-2 (VLAN) and layer-3 (VRF) extension.</li> <li>• The Switch should support 30k IPv4 LPM (Longest Prefix Match) routes</li> <li>• Support for port mirroring on L3 network</li> <li>• Static and Dynamic NAT</li> </ul>	Yes / No / Explain		

7	General Specification (Applicable for all configuration)-4	IPV6 Support <ul style="list-style-type: none"> <li>• IPv6 host support at the edge network</li> <li>• IPv6 Routing (OSPF v3),BGP4+ (IPv6)</li> <li>• VRF (IPv6)</li> <li>• IPv6 over IPv4 tunnels</li> <li>• Multicast Listener Discovery (MLD) version 2 snooping</li> </ul>	Yes / No / Explain		
8	General Specification (Applicable for all configuration)-5	Security Feature <ul style="list-style-type: none"> <li>• 802.1x Accounting</li> <li>• MAC Authentication</li> <li>• Protection against Denial of Service (DoS) attacks</li> <li>• Encryption -- Must support 128-bit Advanced Encryption Standard (AES) for SSL/Management encrypted traffic</li> <li>• Provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number</li> </ul>	Yes / No / Explain		



9	General Specification (Applicable for all configuration)-6	<p>Supported Protocol and RFC Standards: -</p> <ul style="list-style-type: none"> <li>• 802.1D Bridging</li> <li>• 802.1q VLAN Tagging</li> <li>• 802.1p Mapping to Priority Queue</li> <li>• 802.1w Rapid Spanning Tree (RSTP)</li> <li>• 802.3ad Link Aggregation</li> <li>• 802.3x Flow Control</li> <li>• SNMP V1, V2, V3</li> <li>• RFC 783 TFTP</li> <li>• RFC 854 Telnet</li> <li>• RFC 1757 RMON MIB</li> <li>• RFC 896 Congestion Control in IP/TCP Internetworks</li> <li>• RFC 950 Internet Standard Sub-netting Procedure</li> <li>• RFC 1191 Path MTU Discovery</li> <li>• RFC 1403 BGP OSPF Interaction</li> <li>• RFC 1519 Classless Inter-Domain Routing (CIDR):</li> <li>• RFC 1812 Requirements for IP Version 4 Routers</li> <li>• RFC 2236 Internet Group Management Protocol (IGMP) Version 2</li> <li>• RFC 1887 An Architecture for IPv6 Unicast Address Allocation</li> <li>• RFC 1981 Path MTU Discovery for IPv6</li> <li>• RFC 2374 IPv6 Aggregatable Global Unicast Address Format</li> <li>• RFC 2373 IPv6 Addressing Architecture</li> <li>• RFC 2461 Neighbor Discovery for IP Version 6 (IPv6)</li> <li>• RFC 5308 Routing IPv6 with IS-IS</li> <li>• RFC 7348- Virtual extensible Local Area Network ( VxLAN)</li> <li>• RFC 1349 Use of OSI IS-IS for routing in TCP/IP and dual environments</li> </ul>	Yes / No / Explain		
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		<ul style="list-style-type: none"> <li>• OEM can refer to updated or equivalent RFC wherever applicable</li> </ul>			
10	General Specification (Applicable for all configuration)-7	<p>Power and Cooling</p> <ul style="list-style-type: none"> <li>• Switch shall be configured with Redundant hot-swappable internal power supplies</li> <li>• Switch shall be configured with Hot-swappable fan assembly</li> <li>• Power Supply: Should be offered with two internal, redundant, field-replaceable, hot-swappable AC power supplies (100 to 240 VAC, 50 to 60 Hz)</li> <li>• All the switches shall be delivered with required power cables with C13 PDU cables with suitable length (3 Ft or 5 Ft).</li> </ul>	Yes / No / Explain		
11	General Specification (Applicable for all configuration)-8	<p>Management</p> <ul style="list-style-type: none"> <li>• Command-line interface</li> <li>• Out-of-band management (RJ-45 Ethernet and serial RS-232C/Micro USB)</li> <li>• SNMP Manager</li> <li>• Console cable to be included with each switch</li> <li>• The proposed switch should have enough Memory (Flash and RAM) to hold the latest Software Release. Switch should have the capability of holding multiple OS images to support resilience &amp; easy rollbacks during the version upgrades etc.</li> <li>• Switch should support for execution of script for device management for automatic and scheduled system status update for monitoring and management</li> </ul>	Yes / No / Explain		

12	General Specification (Applicable for all configuration)-9	<p>Reliability</p> <ul style="list-style-type: none"> <li>• Switch shall have MTBF 300,000 Hours or better. Vendor shall provide required datasheet or OEM certification to establish MTBF of the offered hardware.</li> <li>• Components, like modules/ power supplies/ fan tray should be Hot Swappable. Online insertion and removal (OIR) support is must for modules, Power supply and FAN.</li> <li>• Switch should support for (Bidirectional Forwarding Detection) BFD for Multipoint network for fast Failure Detection as per RFC 5881 or equivalent</li> </ul>	Yes / No / Explain		
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13	Compliance Requirements	<p>Compliance Specific to Foreign Make Products – Foreign make products shall match the following certifications and compliances (This section is applicable only for Foreign make products) –</p> <ul style="list-style-type: none"> <li>• RoHS and WEEE</li> <li>• FCC Class A or EMC compatibility as per US and European standards</li> <li>• CE Compliant or Safety compliance as per US and European standards</li> <li>• Power supply – Gold rated (80 Plus Gold)</li> <li>• Security Compliance – OEM signed image verification</li> <li>• The offered product or IoS image must be certified with EAL2[Evaluation Assurance Level] or NIAP/CCEVS [National Information Assurance Partnership / Common Criteria Evaluation &amp; Validation Scheme].</li> </ul> <p>Make in India product – Make in India product shall match the following certifications and compliances (This section is applicable only for Make in India products) –</p> <ul style="list-style-type: none"> <li>• RoHS India [E-Waste (Management) Rules, 2016] certification</li> <li>Compliance to BIS norms for safety standard IS 13252:2010 or equivalent BIS standard</li> <li>• Energy Star 6.1 or equivalent – As per Bureau of Energy Efficiency, Govt of India Guideline for Computer/ Hardware</li> <li>• Security Compliance</li> </ul>	Yes / No / Explain		
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		<p>– OEM signed image verification</p> <ul style="list-style-type: none"><li>• Valid Indian Common Criteria Certification Scheme (IC3S) for EAL2 or better for the offer product or offered version of firmware</li></ul>			
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14	Warranty for Switches –	<ul style="list-style-type: none"> <li>• On-site Comprehensive Warranty support for 5 years at ISTRAC Sites located at Bangalore and Shriharikota.</li> <li>• Warranty shall be 24x7 support NBD with advance part replacement.</li> <li>• Vendor shall note that the Switches shall be offered with initial warranty of five years and extended warranty of two years.</li> <li>• Manufacturers support package for Warranty and technical support only should be quoted. The specific part number for such support should be clearly indicated. Vendor shall not replace manufacturer's warranty with their own warranty package.</li> <li>• Warranty shall start from the date of acceptance of the full configuration.</li> <li>• OEM/Vendor to note that all for all the support deliverables no remote access will be provided to the system for troubleshooting purpose. For any unresolved issue if the system expert needs access to the hardware, they need to visit ISTRAC installation site for such access.</li> <li>• The warranty details after acceptance of the product by ISTRAC must reflect on OEM website as per warranty SLA</li> <li>• OEM/Vendor to note that all for all the support deliverables no remote access will be provided to the system for</li> </ul>	Yes / No / Explain		
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		<p>troubleshooting purpose. For any unresolved issue if the system expert needs access to the hardware, they need to visit ISTRAC installation site for such access.</p> <ul style="list-style-type: none"><li>• Technical Support to cover the following<ul style="list-style-type: none"><li>o Access to technical support information for resolving problems, configuration issues, utilities etc.</li><li>o Firmware and updates.</li><li>o Access to technical literature relating to the system</li><li>o Onsite Technical Assurance in troubleshooting</li></ul></li></ul>			
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15	Quality Requirements –	<ul style="list-style-type: none"> <li>• The design and production of critical subsystems like system-board, controllers etc., shall be under the control of manufacturer &amp; international quality certified realization process.</li> <li>• All subsystems of the system shall have been selected to achieve optimal performance and high reliability.</li> <li>• The system architecture shall ensure maximum performance for data forwarding applications. The subsystems, the processor boards, the interconnections among subsystems and the software/firmware shall be properly matched to ensure maximum performance.</li> <li>• Systems shall be only from a proven product line from highly reputed manufacturers. The product line shall be an internationally established brand reputed for high quality and with wide acceptance in deployment for mission critical and business critical functions in the industry.</li> <li>• The manufacturer of the system shall be in total control of the lifecycle (Design, release, support, obsolescence and termination of the critical subsystems like motherboard, controllers etc.,) of the product.</li> <li>• The offered product brand shall not be</li> </ul>	Yes / No / Explain		
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		owned by Countries or its alliance countries, that shares border with India.			
16	Installation & Commissioning –	<ul style="list-style-type: none"> <li>• Vendor should install &amp; commission the systems as per the configuration at ISTRAC sites in Bangalore, Lucknow and Shriharikota</li> <li>• System installation, commissioning is the sole responsibility of the vendor. It includes the installation of all hardware in racks, license activation, firmware upgrades, populating the transceivers all necessary device components</li> <li>• At the time of installation and commissioning of the configuration if it is found that some additional hardware accessories or software items with licenses are required to complete the configuration to meet the operational requirement of the configuration which were not included in the vendor's original list of deliverables then vendor is required to supply such items to ensure the completeness of the configuration at no extra cost to ISTRAC. Vendor should ensure completeness of the list of deliverables in the offer to avoid such discovery during installation.</li> <li>• Vendor shall setup system management console using OEM delivered management console software. Device management software shall be included in the offer.</li> </ul>	Yes / No / Explain		

17	Notes to the Vendor –	<ul style="list-style-type: none"> <li>• Vendor shall submit following certifications from OEM on OEM's letter head - <ul style="list-style-type: none"> <li>a) The vendor is authorized for participating in the bid</li> <li>b) The offered hardware is not an obsolete product</li> <li>c) The offered hardware / software component is back-to-back supported by the OEM during the warranty period</li> </ul> </li> <li>• All the components of the tender (Config A, Config B and Config C) shall be from a single OEM to ensure compatibility and interoperability of the products.</li> <li>• Vendor shall provide compliance documents for Make in India or Foreign make products for the applicable section.</li> <li>• Vendor shall note that the quantity indicated in the slabs is indicative and ISTRAC will finalize the ordering quantity at the time of ordering. ISTRAC may choose to opt for suitable configuration and decide L1 based on the final requirement during ordering stage.</li> <li>• Vendor shall note that L1 shall be derived on overall combined quantity of all configurations. Configuration wise L1 shall not be considered and split order will not be placed.</li> <li>• Vendor may note that any component which is a better / improved version of the specification may</li> </ul>	Yes / No / Explain		
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be offered. However the offered product shall be the latest or next generation hardware in the same product family as specified.

- For all items in the list of deliverables offered by the vendor, the manufacturer's part number should be clearly indicated. Offer of items without clear specification of part number is not acceptable.
- Vendor should indicate the part nos. of the deliverable items clearly. The part numbers & description of the items in the offer should match the part numbers & description of the items mentioned in the manufacturer's spec sheets.
- The part numbers & description of the goods delivered should match the part numbers & description in the offer.
- Vendor should carefully consider all the clauses in the specifications and should ensure that their offer is complete in all respects at the time of submission. Complete technical documentation justifying the compliance should be enclosed along with their offer. Offer which are incomplete are liable to be considered non-compliant.
- Specifications of the major items have been provided in the enclosed document. In case any additional accessories/ software media/licenses are required to complete the configuration for full functionality and/or better manageability

		<p>vendor should include such hardware accessories and related software elements or plug-ins to enterprise management software with licenses in their offer.</p> <ul style="list-style-type: none"> <li>• Systems from the manufacturers who primarily assemble systems by getting components/subsystems from different suppliers and who do not have direct control over the production process/quality of the items so obtained, will not be acceptable.</li> <li>• Vendor should provide technical brochure from manufacturer for all subsystems to verify the current status (i.e. when released, whether due for replacement /obsolesce) the specification of the subsystems. The technical brochure shall give the details not only for the main system but also for all the subsystems and accessories. Technical brochure shall include details of <ul style="list-style-type: none"> <li>o Functional specification.</li> <li>o Hardware &amp; software configuration.</li> <li>o Configuration options.</li> <li>o Electrical &amp; environmental specification.</li> <li>o Safety compliance details.</li> <li>o Physical dimension.</li> </ul> </li> <li>• The cost quoted by the vendor should be for delivery at ISTRAC stores, Bangalore.</li> </ul>			
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### Supporting Documents required from Vendor

## 1. Manufacturer/OEM Authorization Letter/Certificate

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Payment Term (our normal terms of payment is 100% within 30 days from the date receipt, installation and acceptance.)	Yes / No / Explain	
2	Taxes and other costs, if any	Yes / No / Explain	
3	Delivery Period	Yes / No / Explain	
4	Delivery Term	Yes / No / Explain	
5	Security Deposit: FD or BG for 3% of PO value to be submitted after receipt of PO and valid till supply & acceptance.	Yes / No / Explain	
6	Performance Bank guarantee : BG for 3% of PO value to be submitted while claiming payment valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
7	(OR) SD-cum-Warranty (PBG) (in lieu of SD & PBG as a single instrument): BG for 3% of PO value to be submitted after receipt of PO valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
8	DELAY IN COMPLETION / LIQUIDATED DAMAGES :If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the Purchaser shall recover from the Contractor as Liquidated Damages a sum of one-half of one per cent (0.5%) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10%) of the contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.	Yes / No / Explain	
9	Warranty	Yes / No / Explain	

10	Validity	Yes / No / Explain	
11	Name and Address of the company on whom purchase order to be placed (OEM if any should be added in your E-Procurement profile under Add Agent/Principal without fail).	Yes / No / Explain	
12	Certificate of Undertaking: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non consultancy services) or works (including turn-key projects) only if the bidder is registered with the Competent authority (i.e. DPIIT). Hence, it is mandatory to furnish Certificate of Undertaking as indicated in the tender document.	Yes / No / Explain	
13	Any other terms	Yes / No / Explain	

### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	NETWORKING ELEMENTS	1.0 - 10.0 Lot		-		
		11.0 - 20.0 Lot		-		
		21.0 - 40.0 Lot		-		
		41.0 - 100.0 Lot		-		
2	NETWORKING ELEMENTS	1.0 - 10.0 Lot		-		
		11.0 - 20.0 Lot		-		
		21.0 - 40.0 Lot		-		
3	NETWORKING ELEMENTS	1.0 - 10.0 Lot		-		
		11.0 - 20.0 Lot		-		
		21.0 - 50.0 Lot		-		

**Common charges (Applicable for all items)**

<b>P&amp;F Charges</b>	
<b>Freight Charges</b>	
<b>Installation Charges</b>	
<b>Documentation &amp; Handling Charges</b>	
<b>Other Charges (If any)</b>	