|  |  |  |
| --- | --- | --- |
|  |  | Annexure-A |
| **Core Switch Technical Specifications** |
| **S/N** | **Specification** | **Compliance (Yes/ No)** |
|   | **General Requirements:** |   |
| 1 | Modular chassis based switch. |   |
| 2 | Shall have minimum 6 slots with support of redundant CPU/Switch fabric |   |
| 3 | Should have distributed switching architecture, each module should be provisioned with adequate hardware/software to support the same. |   |
| 4 | Shall have one CPU and redundant power supply. The switch should support redundant CPU. |   |
| 5 | The core switch should support new technologies like MPLS, EoMPLS hardware with firmware upgrade only without upgrading the switching fabric and line modules. |   |
| 6 | Should support service modules like Wireless Controller, Firewall etc. |   |
|   | **Performance:** |   |
| 7 | The switch should offer minimum 900 Gbps switch fabric capacity per switch. |   |
| 8 | In the event of failure of one switching/routing engine, forwarding should not stop and failover from one engine to other should be statefull |   |
| 9 | Minimum 250 Mpps forwarding rate should be supported. |   |
| 10 | Should be capable of 80 Gbps of switching capacity per slot (8 x 10G ports non blocking).  |   |
| 11 | Shall support Hot-swappable power supplies and switching modules |   |
| 12 | At least 100,000 IPv4 and 100,000 IPv6 routes should be supported. At least 100,000 multicast routes. |   |
|   | **Layer 1 Features** |   |
| 13 | Support for 10/100/1000 BASE-T, 1000 BASE-SX, LX, LH ,ZX GBIC/SFP and 10-Gig SR/LR/ZR |   |
| 14 | Chassis shall support minimum 180 Gigabit ports or 30 Nos. of 10-Gig ports non-blocking ports. |   |
|   | **Layer 2 Features** |   |
| 15 | Shall have Layer 2 switch ports and VLAN trunks |   |
| 16 | Shall support IEEE compliance for 802.1Q VLAN, 801.2p, 802.1d STP, 802.3ad, 802.1w RSTP, 802.1s MSTP, 802.1AE MACSec |   |
| 17 | 802.3ad LACP, IEEE 802.1ab Link Layer Discovery Protocol. |   |
| 18 | Shall support 100,000 MAC addresses |   |
| 19 | Shall support 4000 active VLAN  |   |
|   | **Layer 3 Features** |   |
| 20 | Shall have basic Routing-Static IP routing, RIP v1/v2, RIPng and policy based routing |   |
| 21 | Shall have hardware enabled advance IP routing protocols OSPF, OSPFv3, BGPv4, PIM-SM, PIM-DM , PIM-SSM etc. |   |
| 22 | Shall have VRRP or equivalent for redundancy |   |
| 23 | Shall have IGMP v1, v2, v3 |   |
| 24 | Shall have IP multicast routing protocols PIM , |   |
| 25 | Should support MPLS Provider/Provider Edge functionality |   |
| 26 | Should support MPLS VPN, MPLS mVPN (Multicast VPN), MPLS Class of Service (CoS), VRF‐Aware Services (NTP, TFTP, IPsec, Syslog). |   |
| 27 | Support VRF-Lite or VRF for L3 virtualization |   |
|   | **QoS Features** |   |
| 28 | Shall have sophisticated QoS and Traffic Management |   |
| 29 | Shall have Per-port QoS configuration |   |
| 30 | Support for IEEE 802.1p QoS policies. |   |
|   | **Security:** |   |
| 31 | Shall have Filters/Access-List on all ports |   |
| 32 | Shall have 802.1x accounting and authentication |   |
| 33 | Should support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses |   |
| 34 | Shall have TACACS+/RADIUS enabled. |   |
| 35 | Shall have SSHv1 , SSHv2, SNMPv1, SNMPv2, SNMPv3 and NTP support |   |
| 36 | Should support hardware assisted NAT |   |
|   | **Interface** |   |
| 37 | Should have 24 x 1G SFP slots populated with 8 x 1000 Base-SX OFC Modules (SSM) |   |
| 38 | Should have 48 x 10/100/1000 Base-T ports |   |
|   | **Cerification** |   |
| 39 | The proposed switch should be common criteria EAL3 or NDPP certified. |   |
| 40 | Switch OEM should be in the Gartner’s Leaders or Challengers quadrant for Wired and Wireless LAN Access Infrastructure |   |