

Tier-2 Router (08 WAN Ports)

Sr. No.	Item Description
	General Requirements
1	Router shall be designed for continuous operations. The bidder shall furnish the MTBF (Mean Time Between Failure) predicted and observed values along with calculations by the manufacturer.
2	In case of full system failure, Router shall maintain a trace area in the NVRAM / FLASH which would be used for analysis / diagnosis of the problem.
3	Router shall have built in power-on diagnostics system to detect hardware failures.
4	Router shall have suitable Visual Indicators for diagnostics and healthy / unhealthy status of Ports & modules.
5	The design of Router shall not allow plugging of a module in the wrong slot or upside down.
	Hardware Details
6	The proposed device should be mentioned as Router in the publicly available OEM datasheet/document.
7	Router shall have minimum 02 Nos. 1G Base-T Ethernet LAN ports at wire-speed/Line rate complying to IEEE 802.3ab specification. The Gigabit ports shall have full duplex capabilities. The hardware of all these ports should be complete in all respect.
8	Router shall have minimum 8 WAN ports which shall be combination of both 100/1000 Base-T Ethernet Routed Ports and G.703 interface / E1 Ports. The hardware of all these ports should be complete in all respects. The combination of WAN ports shall be as follows:
(i)	Router shall have minimum 02 Nos. 100/1000 Base-T Ethernet Routed Ports at wire-speed / Line rate complying IEEE 802.3ab specification. The Ethernet ports shall have full duplex capabilities.
(ii)	Router shall have minimum 04 Nos. WAN ports supporting G.703 interface / E1 Ports natively. These ports shall be operable up to speed of 02 Mbps.
(iii)	Router shall have minimum 02 Nos. WAN ports; which can be either be 100/1000 Base-T Ethernet Routed Ports supporting full duplex capabilities or G.703 interface / E1 Ports natively operable up to speed of 02 Mbps.
9	Router shall have aggregate packet forwarding rate greater than or equal to 400 kpps (kilo packets per second) for a packet length of 64 Bytes/128 Bytes. The performance of the router shall not degrade for IPv4 and IPv6 individually as well as for dual stack operations (IPv4 & IPv6).
10	Router shall have aggregate throughput minimum 400/800 Kbps for a packet length of 64 Bytes/128 Bytes respectively.
11	Router shall have minimum 20K active IPv4 and 10K IPv6 routes.
12	The Router shall have enough CPU capacity and Memory so as to efficiently meet all the functionalities laid down in the specifications. The bidder should specify the offered CPU and memory model.
13	The router hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack) from day one.
14	Router shall support 19" rack mountings.
15	Router shall support Upgrade of Software through Flash Memory.
16	Router shall support on-line software reconfiguration to implement changes without rebooting.
17	Router shall be capable of working with 200 – 240 Volts AC nominal at frequency 50 +/- 2 Hz.
18	Router shall support a console port with RS-232 or RJ-45 Interface for configuration and diagnostic purposes.
	Software Details (required from day 1)
19	The router shall support following protocols: I. TCP/IP ii. ARP, ICMP, ICMPv6, DHCP, TFTP and DNS iii. Network address translation (NAT) and Port Address Translation (PAT)