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Design of Router shall not allow plugging of a module in the wrong slot or upside down.

Hardware Details

The proposed device should be mentioned as Router in the publically available OEM datasheet/document.

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.

Router shall have minimum 4 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 to IEEE 802.3ab specification. The Ethernet ports shall have full duplex capabilities.

(ii) Router shall have minimum 02 Nos. WAN ports supporting G.703 interface / E1 Ports natively. These ports shall be operable up to speed of 02 Mbps.

Router shall have aggregate packet forwarding rate greater than or equal to 200 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).

Router shall have aggregate throughput minimum 200/400 Kbps for a packet length of 64 Bytes/128 Bytes respectively.

Router shall have minimum 20K active IPv4 and 10K IPv6 routes.

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.

The router hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack) from day one.

Router shall support 19" rack mountings.

Router shall support Upgrade of Software through Flash Memory.

Router shall support on-line software reconfiguration to implement changes without rebooting.

Router shall be capable of working with 200 – 240 Volts AC nominal at frequency 50 +/- 2 Hz.

Router shall support a console port with RS-232 or RJ-45 Interface for configuration and diagnostic purposes.

Software Details (required from day 1)

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)

iv. Router shall support NTP (Network Time Protocol) or SNTP (Simple Network Time Protocol) for date & time synchronization from NTP Server. The router shall also be configured as NTP Server for serving the time.

v. Support for both TCP and UDP at layer 4

vi. Sub networking

vii. Classless Inter Domain Routing (CIDR)

viii. Variable Length Subnet Masking (VLSM)

ix. IEEE 802.1Q based VLAN tagging

x. VRRP

The router shall support following WAN protocols:

i. PPP

ii. Multi-link PPP

iii. HDLC

The router shall support static as well as dynamic routing with following IP routing protocols: