

Tender No. 50118100

SPECIFICATIONS

Item No. 1

Router 02 LAN/4 x 02 Mbps WAN Port

Make –CISCO/NORTEL/JUNIPER /3 COM

1. Hardware details-

Sr. No.	Specification
1	Router shall have modular configuration. Router shall have 02 no 10/100 Base Tx port as per IEEE 8902.3u specification. The Fast Ethernet Ports should support full duplex capabilities
2	Router shall have 04 no. WAN ports supporting G.703 Interface. These ports shall be operable up to speed of 02 Mbps.
3	Router shall support 19' Rack mountings.
4	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.
5	Router shall support aggregate packet forwarding rate greater than or equal to 70,000 -64 bytes packets per second.
6	Router shall support Upgrade of software through Flash memory.
7	Router shall support on line software reconfiguration to implement changes without re booting.
8	Router shall support a console port with RS-232 Interface for configuration and diagnostic purposes.

9. Soft ware Details- The Router shall support following protocols.

I	TCP/IP with support for IP ver. 4.
II	Support for IP Ver. 6 in future.
iii	ARP, RARP, ICMP, DHCP, TFIP and DNS
iv	Network address translation (NAT) as per RFC 1631
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 IQ BASED VLAN tagging
x	VRRP based on RFC 3768

10. The Router shall support following IP routing protocols.

I	PPP as per RFC1661
II	Multi-Link PPP as per RFC 1717
iii	HDLC
iv	Frame Relay

11. The Router shall support following WAN protocols.

I	RIP Version 2
II	OSPN Version 2 as per RFC-1583
iii	OSPN on Demand as per RFC 1793
iv	Static and dynamic routing
V	BGP Version 4 as per RFC 1771

12. The Router shall support following quality of service (Qos) FEATURES..

I	Weighted fair queaing (WFQ)
II	IP Precedence i.e. Priority based on TOS Field of IP ver.4
iii	Differentiated Service (Diff. Serve) I.E. Priority based on DS field of the IP ver. 4

13. The Router shall support following WAN optimization features.

I	Load balancing on LAN as well as WAN ports
II	I TCP Header compression.
iii	Data compression for both Header and payload to be supported for frame relay and lessed WAN links.

14. The Router shall support following security features.

I	Data encryption (minimum 56 Bit DES)
II	Access Lists based on network Address.
iii	Access lists based on Network Address .Mask, protocol type and socker type
iv	Access list violation logging and accounting
V	MD5 Router Authentication as per RFC 1321
Vi	Controlled SNMP Access through the use of SNMP with MD5 Authentication.
Vii	Multiple Privilege levels to provide different levels of access
Viii	Remote, Authentication dial in user service (RADIUS) as per REFC 2138.

15. Router shall support Network Management through

I	SNMP
II	RMON Support
iii	MIBI and MIBII
iv	Software upgrade through FTP or TFPT
V	TELENET client and server

16. Router shall support following in the user level of access i.e. the user with minimum privileges.

I	Ping
II	Telenet
iii	Trace Route
iv	Display of pre-configured description / label on each interface
V	Display of physical layer line status signals (DCD, DSR, DTR, RTS, and CTS) on all serial interfaces.
Vi	Display of input and output error statistics on all interface
Vii	Display of input and output data rates spastics on all interface
Viii	Display of Dynamic ARP table

17. Router's firmware shall be year 2000 compliant.

18. Router shall have debugging features to display and analyze various types of packets.

19. Router shall be 48 Volt DC operated.