

C-DOT CRTR-210 ROUTER



Centre for Development of Telematics

CRTR-210 is a next generation router product, built to address challenges faced by service providers at the core and edge of the network. It supports features which together make IP/MPLS network fail-safe and reliable for NGN services and applications.

The system has a switching and routing capacity of 28 Gbps. The router can route the packets based on Layer 2 (MAC address), Layer 3 (IP address) and Layer 4 (TCP/UDP port number) header fields.

The CRTR-210 Router Software is known as C-DOT Router OS (CROS) and is a modular, reliable, high-performance carrier class network operating system used across routing, switching, and security platforms. The software architecture is modular, scalable and supports separate control and data/forwarding plane to ensure high availability. The management plane is isolated from control plane and data plane.

PRODUCT SPECIFICATIONS

Network Interfaces	4 X RJ-45 10/100/1000Base-T Electrical 24 X 1G SFP Ports - 1000Base- LX/SX/LH/ZX - 10/100/1000Base-T Electrical SFP Option for - 2 X 10-Gig SR/LR/ER/ZR - E1 Interface (Through SFP based adapter/ inter-working device) - V.35 Interface (through external adapter)
Data Plane Protocols	Ethernet, IPv4, IPv6, VRF, MPLS LSP, LSR and LER, Label Stacking, Packet Loss Protection/Fast Recovery
MPLS VPNs	BGP/MPLS VPNs, IPv4/v6 VPNs, Outbound and Inbound Route filtering, Per-interface, Per-route, Per-VRF label allocation, Loop prevention, Inter-AS VPNs, Static and Dynamic LSP provisioning, LSP Stitching.
Control Plane Protocols	Static Routing, OSPF v2/v3, BGPv4, RIPv2/RIPng, Policy Based Routing, Multicast PIM SM/PIM, DM/PIM SSM, IGMP v1/v2/v3, MLD, LDP, RSVP-TE, MPLS VPN, Virtual Routing Domains, DHCP, SDN Ready, Rapid Convergence Support
Layer 2 Protocols	IEEE 802.1D Bridges, IEEE 802.1Q Bridges, VLAN Trunking, Tagging, Jumbo Frames, IEEE 802.1d STP, IEEE802.1w: Rapid Spanning Tree Protocol (RSTP), IEEE802.1s: Multiple Spanning Tree Protocol (MSTP), BPDU Guard and Root Guard, IEEE 802.1AB LLDP, IEEE802.3ad: Link Aggregation, IEEE802.1p Class of Service, IEEE 801.2p, SPAN/RSPAN, Integrated routing and bridging, Secure VTP, Neighbour Discovery, MAC Table display/clear

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QoS	DiffServ QoS, IEEE 802.1p CoS, MPLS CoS, Per port hardware queues for upto 4 queues, WRED, DSCP, IP Precedence, guaranteed services in converged (voice, video, and data) over packet-switched infrastructure, Differentiated traffic priorities, controlled and efficient use of network resources, network traffic policing/shaping, congestion-avoidance
Security	Prevents unauthorized users from accessing the router console port, port mirroring for offline traffic analysis, Line rate packet filtering (ACL), MACSec, IEEE802.1X: VLAN Port Security and Authentication, MAC Filtering, per port configurable MAC addresses, DHCP snooping, IP Source Guard, DAI, Rate limiting, Traffic Policing, NAT, IPSEC, BPDU Guard, Root Guard, BPDU filtering, authentication of Routing and Signalling protocols, Syslog, PKI with CA, Interface for external cryptographic module, Access Control list (Port Based, Time Based, VLAN Based), Control Plane Protection, Port Based storm control, Configurable number of active ssh, ftp, telnet sessions on CROS devices, Syslog messaging on security violation, Support for Firewall Module
Timing	NTP v2
Network Fault Isolation and Recovery	Ping/traceroute, LSP ping/traceroute, STP auto-shutdown, Network performance monitoring, Network health monitoring, network availability monitoring, troubleshooting
Load Balancing	Link Aggregation as per 802.3ad (LACP), ECMP
High Availability	Redundant Power Supply, VRRP, Link Aggregation
Throughput & Latency	28 Gbps Packet latency of ~100 micro second
Management Access	In-band management, Out of Band management using Ethernet, RS232 Console, SSHv1/v2, SFTP, SCP and CLI, RMON, SNMPv1/v2c/v3.
Traffic Monitoring	MPLS monitoring, Link Monitoring, Port & VLAN based Mirroring, Port Mirroring to remote analyzer (RSPAN), S-flow, Monitoring VoIP/Video streams, SLA monitoring
Power Supply	220V AC
Form Factor	1U, 19" Rack mountable

About C-DOT

Centre for Development of Telematics (C-DOT), a premier Telecom Technology Development Centre of Government of India was founded in August 1984 to meet technology needs of the country. It has state of the art CMMI Level 5 certified research centres at Delhi & Bangalore.

C-DOT, India's premier telecommunications R&D centre, has been a pioneer and a nation builder. Committed to provide a wide range of indigenously developed, cost-effective, state-of-the-art total telecom solutions, it has come a long way since its inception. Starting from the mission of providing dial tone to Indian masses, C-DOT has developed solutions in practically all areas of Telecom viz. Switching, Transmission, Optical, Wireless, Satellite communications, Next Generation Network, Voice Over IP Solutions and Telecom Software Solutions.

Our Vision

C-DOT to become world class telecom technology development centre.

Our Mission

- To design and develop state-of-the-art technologies, products and solutions
- To meet the telecom needs of India, especially those of National importance in strategic and rural sectors.

Capabilities & Strengths

- Unparalleled Telecom Knowledge
- State of the art R&D Infrastructure
- Young, Talented and Dynamic Professionals
- Wide portfolio of Technologies, Products and Solutions
- Proven Design, Concepts & Methodologies
- In-house Pilot Production Plant
- Proven Technology Transfer Methodology
- Excellent Support throughout the life time of the Solution

Product Portfolio

- Optical Technologies
- Next Generation Network (NGN) and Voice Over IP solutions
- IP Multimedia Subsystem (IMS)
- Terabit Router
- Wireless Technology
- Software Solutions & Applications
- Projects for Defense and Security Agencies



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