



SAKSHAM-1200

ACCESS & AGGREGATION ROUTER



Product Highlights

- Indigenously designed
- 2 Tbps switching capacity
- Wire speed L2 and L3 forwarding
- Network Ports: 4x100G + 24x25G/10G/1G
- Flexible port configurations:
 - ✦ 4x100G
 - ✦ 2x40G
 - ✦ 32x25G
 - ✦ 32x10G
 - ✦ 24x1G
- MACSec Support Option on ports
- 10/100/1000 Mbps OOB Management port
- IEEE 1588v2, Sync-E, NTP
- BITS, 10MHz, ToD & 1PPS support
- 1U, 19" rack-compliant chassis
- 6 Fans (5+1 redundant)
- Front to rear cooling
- Hot-swappable fans
- 1+1 PSU redundancy
- 230V, 50Hz AC or -48V DC power option
- Hot-swappable PSUs



Overview The rapid evolution of next-generation transport networks, driven by high-capacity links and the surge in 5G and cloud services, requires agile, secure, and high-performance routing solutions. C-DOT's latest compact and powerful SAKSHAM-1200 Router provides industry leading performance, scale and port-density. Additionally, MACSec encryption option is also supported for secure data transmission requirements.

C-DOT's SAKSHAM-1200 is an MPLS Router/Data Centre Switch having 2Tbps switching capacity. Packaged in a 1U, 19" rack compliant form factor chassis, the system offers a very rich feature-set, making it suitable for deployment in a wide range of Networking Solutions like 5G Mid-Haul, Next-generation Enterprise Networks, Access and Aggregation, Data Centre Network as well as strategic networks.

With support for flexible ethernet port speeds like 100G/40G, and 1G/10G/25G ports, the Routing platform caters to the operator challenge to deliver both traditional and next-generation services across varying port speeds, in a resilient and power efficient manner.

Hardware Features The product is powered by high performance hardware accelerated data path, ensuring wire-speed Layer-2 and Layer-3 processing with advanced features like ACL and QoS, enabled at all packet sizes from 64 bytes to 9K

bytes and multi-core control processor capable of running the complex protocol stack. The System has 1+1 redundant AC/DC Power Supply units and n+1 redundant Fan trays that are hot-swappable and field replaceable. The system supports IEEE 1588v2 PTP and SyncE timing and implements all the required clock and timing interface ports, besides support for NTP timing. The IEEE 802.1AE MACSec option is also possible to support on Network ports for providing point to point encrypted traffic required for secure networks.

Software Feature Highlights

- Comprehensive L2, L3 and Multicast support
- Feature rich MPLS support for integrated router functionality
- Indigenously designed with no malware
- Control, Management and Data Plane separation for fault isolation
- VRF support including Management VRF
- RADIUS/TACACS+
- IP Spoofing protection with uRPF and DHCP snooping
- ACL and PBR
- Control Plane Policing (CoPP)
- Zero Touch Provisioning (ZTP)
- Multi-chassis LAG
- Virtual Router Redundancy Protocol (VRRP)
- EVPN-VxLAN
- Hardware accelerated OAM/BFD

Software Features The system software runs on CROS (C-DOT Routing Operating System) software stack that provides scalable, feature-rich, and secure software to run and manage the hardware. CROS follows standard secure boot feature which prevents compromised booting codes and software from running by using Hardware based Root of Trust. CROS has a modular architecture with memory protection and loosely coupled Control Plane, Data Plane and Management Plane, that allows feature enhancements as the needs of the network evolve. SAKSHAM-1200 provides full-service flexibility with support for both traditional services like IP-VPN and MPLS based L2VPNs as well as next-generation EVPN Services like VXLAN for network virtualization and programmability models, REST APIs and NETCONF.

Quality of Service SAKSHAM-1200 supports flexible traffic classification for meeting various bandwidth requirements. Policing and Shaping can be done at flow, VLAN or port level. Additionally, scheduling disciplines like Strict Priority, Weighted Round Robin (WRR) and congestion avoidance techniques like Weighted Random Early Detection (WRED) are also supported.

Management The product can be managed locally using the console port or remotely using secure access. Access to the switch via CLI commands, SNMP interface and NETCONF/RESTCONF is available for integration with EMS/NMS and SDN controllers. Commands can be authorized via RADIUS/TACACS+ and all operations are authorized and logged. Extensive logging is supported which can be sent to syslog servers.

Virtualization The system supports EVPN-VxLAN as the overlay tunneling technology, which is needed for implementing a Layer-2 overlay network over a spanning-tree free IP underlay, providing support for VM workload mobility across racks and in Data Center.

Security Features The security features have been built-in in the product right from the design stage itself. The Control Plane and Management Plane are decoupled from Data Plane and are protected by rate limiting of control packets. Authentication is supported for control protocols, management access is protected by management ACL, 802.1x, MAB, role-based access control is supported with RADIUS and TACACS+. Secure boot and hardware-based Root of Trust are also implemented for added security. The system also supports line-rate data with advanced security features like MACsec for point-to-point data protection for handling security use-cases at Access points and WAN Links.

Layer 2 Features

- Spanning Tree (RSTP/ MSTP)
- 4K VLAN support
- LLDP
- Link Aggregation/LACP
- Jumbo Frames (9216 Bytes)
- IGMP Snooping

Layer 3 Features

- Integrated Routing and Bridging
- IPv4/v6 Dual Stack
- Virtual Routing & Forwarding
- Static Routes
- RIP, RIP-ng
- OSPFv2, OSPFv3
- IS-IS
- BGP
- PIM-SM, DM, SSM
- IGMP and MLD
- ECMP
- PBR
- BFD
- GRE and IP Tunnels

MPLS Features

- LDP
- RSVP-TE
- Fast Reroute
- MPLS OAM
- MPLS L3 VPN
- MPLS L2 VPN (VPWS & VPLS)

QoS Support

- DiffServ QoS
- L2, L3, L4 based classification
- srTCM, trTCM
- Shaping
- Strict Priority
- WRED, ECN
- 8 queues per port

High Availability

- PSU and FAN redundancy
- VRRP
- MC-LAG/EVPN Multi-Homing
- ECMP

Network Virtualization

- EVPN/VxLAN

Management

- CLI
- SNMP (v2c/v3)
- NETCONF/RESTCONF/Yang
- Dual software image
- Remote software upgrade
- User Management (AAA)
- Syslog
- Management over both IPv4 and IPv6

Advanced Monitoring/Provisioning

- Zero Touch Provisioning
- Port and Flow Mirroring
- RMON
- sFlow
- ERSPAN
- IP/MPLS OAM
- Uplink Failure Detection
- IP SLA

Security Features

- Role Based Access Control
- RADIUS/TACACS+ AAA
- Secure Shell (SSH)
- Access Control List (ACL)
- Management ACL
- Management VRF
- Storm Control
- MAC limit, BPDU guard and Root guard
- Control Plane Protection
- DHCP Snooping
- Dynamic ARP Inspection
- IP Source Guard
- MACSEC
- uRPF

Timing Synchronization and others

- NTPv4
- PTP/Sync-E
- DHCP Relay
- DNS Resolver

Network Port Configuration Options	
Port Speed	Maximum Port Count
1 GbE	24 SFP ports
10 GbE	24 SFP ports + 8 using breakouts
25 GbE	24 SFP ports + 8 using breakouts
40 GbE	2 QSFP ports
100 GbE	4 QSFP ports

*MACSec support option on 16 x 25G/10G/1G ports and 4 x 100G / 2 x 40G ports

Physical Characteristics	
Parameter	Specifications
Network Ports	24 x 1G/10G/25G SFP28 + 4 x 100G / 2 x 40G QSFP28 ports
Management Ports	Serial Console Port, Ethernet port for OOB management
Power Supply	230V AC / -48V DC Power Supply Options 1 + 1 Redundant & Hot-swappable power supplies
Cooling	6 hot-swappable Fans (5 + 1 redundant), front to rear air-flow
Form Factor	1U high, 19" rack compliant chassis
Dimensions (W x D x H)	445 mm x 500 mm x 44 mm

Environmental Range	
Parameter	Specifications
Operating Temperature	5° C to 40° C
Operating Humidity	10% - 95% non-condensing



Scan the QR Code to Visit C-DOT Web



Centre for Development of Telematics

Corporate Office:
C-DOT Campus, Mehrauli,
New Delhi - 110 030, India
Phone: +91 11 2680 2856
Fax: +91 11 2680 3338

C-DOT Campus, Electronics City,
Phase-I, Hosur Road,
Bengaluru - 560 100, India
Phone: +91 80 2511 9001
Fax: +91 80 2511 9601

www.cdote.in

Copyright © 2025 C-DOT. All Rights Reserved.

07/25

