

C-DOT High Speed Data Centre Switch cum Router (CTX-2000)



Overview

C-DOT's CTX-2000 is a high-speed switch-router product, built to address the requirements of data center operators and service providers at the aggregation and core layer of the IP network. CTX-2000 has a compact 1RU form factor and it delivers carrier-class Ethernet, MPLS and IP capabilities. With a choice of multiple port configuration & speeds 1/10/40/100G Ethernet, it is a good fit for applications like Campus and Enterprise Aggregation and Core network as well as Service provider networks as Core router. It provides backbone for carrying voice, data and video traffic through network. Owing to wide range of port speed configurations, low latency, good throughput and feature capabilities, this product can also be deployed as a leaf or spine node in a CLOS network commonly used in a Data Centre. Support for traditional IP/MPLS protocols as well as popular data centre protocols like MC-LAG and EVPN makes it a suitable product for scalable and cost-effective deployments. Router configuration and management is supported through Command Line Interface, SNMP and NETCONF/REST.

CTX-2000-32Q-AC is a 19" rack mountable system with redundant AC Power Supply units that are field replaceable.

High Performance Hardware

State of art silicon powers the CTX-2000 product ensuring low power consumption. The Multi-layer hardware data path capable of Layer2, Layer3 processing allows for line-rate lookup and forwarding at all packet sizes from 64bytes to 9K bytes.

The software has a modular architecture with control plane and data plane separation that allows feature enhancements as the needs of the network evolve.

Quality of Service

QoS allows for flexibility in meeting bandwidth and latency requirements of different traffic types. Policers and Shapers can be used to rate limit the traffic. Prioritisation is achieved using Strict Priority, WRR and congestion avoidance and flow-control techniques like Weighted Random Early Detection (WRED), Explicit Congestion Notification (ECN) and Priority-based Flow Control (PFC).

Management

Management of the nodes can be done locally using the console port or remotely using secure access. Access to the switch via CLI commands, SNMP interface and NETCONF is available for integration with EMS/NMS and SDN controllers. Commands can be authorized via RADIUS/TACACS+ so that all operations are authorized and logged. The nodes have extensive logging that is available locally and can also be directed to syslog servers.

Software Features

The CTX-2000 series of Switch Routers run the CROS (C-DOT Router Operating System) software that provides scalable, feature-rich software to run and manage the hardware. CROS has a modular architecture with memory protection and loosely coupled Control Plane, Data Plane and Management Plane. As with any Network OS, secure remote management, persistent configuration store, user authentication and command authorization using RADIUS/TACACS+ and debug support using syslog and SNMP are available.

Salient features

Layer2 Features

- Layer2 Discovery
- MAC Learning and Switching
- VLAN support
- Link Aggregation
- MC-LAG
- Spanning Tree
- OverLay Tunneling

Layer3 Features

- VRRP
- Virtual Routing & Forwarding
- Static Routes
- RIP
- OSPFv2

- OSPFv3
- BGP
- ISIS for IPv4/v6
- Multicast
- IGMP Snooping
- ECMP
- PBR
- MPLS
- EVPN-VxLAN

Timing Synchronization

- NTP v2

Management

- System Monitoring
- Logging
- Port and Flow Mirroring
- RMON
- sFlow
- Remote Software Upgrades
- User Management (AAA)
- SNMP (v1/2c/3, NETCONF, REST)
- Syslog
- CLI
- Zero Touch Provisioning

Security, QoS and other Features

- Secure Shell (SSH)
- RADIUS/TACACS+
- Storm Control
- Access Control List (ACL)
- Control Plane Protection
- Dynamic ARP Inspection
- IP Source Guard
- DHCP Snooping
- DHCP Relay
- DNS Resolver
- QoS Support
 - ◆ DiffServ and IEEE 802.1p support
 - ◆ Priority Flow Control

Hardware features

Port Configurations

Product	1/10GbE	40GbE	100GbE
CTX-2000-32Q-AC	□ Upto 128 ports of 1G/10G for short haul operation □ Upto 128 ports of 10G for long haul operation □ Upto 32 ports of 1G Electrical/ Long range optics through adapter	Up to 32 ports	Up to 32 ports

Physical Characteristics

Parameter	Specifications
Network Ports	Up to 128 ports using splitter cable
Management Ports	Serial Console Port, Ethernet Port for OOB Management
Power Supply	Dual AC power supplies (1 + 1 redundant), Rear FRU
AC Voltage Rating	200-240V AC; 50Hz
Cooling	4 hot-swappable Fans (n + 1 redundant), rear to front air-flow

Enironmental Range

Parameter	Specifications
Operating Temperature	0° to +40° C
Operating Humidity	10% - 85% non-condensing

Feature Scalability

Parameter	Specifications
Full Duplex Switching	3.2Tbps
Forwarding Rate (64B)	4.76Bpps
ECMP	32 way
Latency	< 425 ns
Frame Size supported	64 to 9676 bytes

Ordering Information

CTX-2000-32Q-AC

(Optics to be ordered separately, based on field requirements)



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