

ES4704BD

Chassis Core Routing Switch



Product Overview

The Edge-Core ES4704BD is a high performance, 4-slot, Layer 3 chassis switch. It can work in dual or single management module mode. Slot configuration can be any combination of network interface modules and 1 or 2 management modules. Furthermore, management modules also include network interfaces so total port density and slot usage is increased. With redundant power supply, fans, and management modules, the Edge-Core ES4704BD ensures continuous operation and is a fully redundant system. Moreover, all parts are hot swappable. They can be added or exchanged without interrupting the whole system. The ES4704BD is ideal for the core layer of campuses, enterprise networks and the aggregation layer of IP metropolitan networks..

Key Features and Benefits

Performance and Scalability

The ES4704BD supports up to 13 10G ports or 188(48x3+44) Gigabit ports and 188 10/100 ports, providing flexibility and high port density.

10G modules support 1 or 2 ports for link to L3 Gigabit switches or L2 Gigabit switches, aggregating them to the core layer, and preventing bottlenecks in Gigabit switches. Furthermore, the optional 10Gigabit Ethernet XFP transceivers can be chosen for different distance fiber uplinks.

Every module is hot swappable, ensuring continued operation of the system while adding or removing a module.

Firmware & configuration are automatically upgraded from master to backup management module for management simplicity.

Continuous Availability

IEEE 802.1w Rapid Spanning Tree Protocol provides a loop-free network and redundant links to the core network with rapid convergence.

IEEE 802.1s Multiple Spanning Tree Protocol runs STP per VLAN base, providing Layer 2 load sharing on redundant links.

IEEE 802.3ad Link Aggregation Control Protocol (LACP) increases bandwidth by automatically aggregating several physical links together as a logical trunk and providing load balancing and fault tolerance for uplink connections.

IGMP snooping prevents flooding of IP multicast traffic, and limits bandwidth intensive video traffic to only the subscribers.

L3 Features

The ES4704BD delivers high-performance hardware based IP routing.

RIP and OSPF provide dynamic routing by exchanging routing information with other Layer 3 switches or routers.

DVMRP, PIM-DM Multicast Routing Protocols send IP multicast traffic from one subnet to another.

VRRP prevents your system from failing by dynamically backing up multiple L3 switches for routing.

Comprehensive QoS

8 egress queues per port enable differentiated management of up to 8 traffic types.

Traffic is prioritized according to 802.1p, DSCP, IP precedence and TCP/UDP port number, giving optimal performance to real-time applications such as voice and video.

Bidirectional rate-limiting, per port or traffic class, preserves network bandwidth and allows full control of network resources.

Enhanced Security

IEEE 802.1x port-based access control ensures all users are authorized before being granted access to the network.

Access Control Lists (ACLs) can be used to restrict access to sensitive network resources by denying packets based on L2/L3/L4 headers.

SSL, Web Management Encryption, RADIUS and TACACS+ authentication protect data communication and ensure data privacy.

Simple Management

Industry standard Command Line Interface (CLI) via console port or Telnet can be used for switch management.

Embedded user friendly web interface helps users quickly and simply configure switches.

Backup and restore firmware and configuration files via TFTP.



Features

Physical Ports

4 open slots
1 AC power supply and 1 additional open slot for optional power supply
Max. number of 10 Gigabit ports: 13
Max. number of Gigabit ports: 188

Performance

Backplane Capacity: 160Gbps
Forwarding Rate: 110Mpps
Mac Address Table Size: 64K
SDRAM: 256MB
Flash Memory: 128MB

L2 Features

Auto-negotiation for port speed and duplex mode
Flow Control:
 Provides IEEE 802.3x for full duplex mode
 Back-Pressure flow control for half duplex mode
Spanning Tree Protocol:
 IEEE 802.1D Spanning Tree Protocol (STP)
 IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
 IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
VLANs:
 Supports 4K IEEE 802.1Q VLANs
 Port-based VLANs
 Private VLAN
 GVRP
Link Aggregation:
 Static Trunk
 IEEE 802.3ad Link Aggregation Control Protocol
 Load Balancing for both Unicast and Multicast
 Number of port trunks : 6 per module
 Number of ports per trunk: 2~8 ports
IGMP Snooping:
 IGMP v1/v2/v3 snooping
 IGMP Query

L3 Features

IPv4/IPv6 Routing
ARP
Multi-netting
Super-netting (CIDR)
BGP4+
RIPv1/v2, RIPng
OSPF v2/v3
DVMRP, PIM-DM, PIM-SM, PIM-SSM, MSDP
PIM-SM/DM/SSM for IPv6, 6 to 4 tunnels, configured tunnels, ISATAP
VRRP
VRRP v3
DHCP/BootP relay, DHCP server
DNS proxy
Multicast receive control

QoS Features

Priority Queues: 8 hardware queues per-port
Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP,
TCP/UDP port number, Access Control List
Supports Marking and Re-marking
Supports WRR and Strict scheduling
Bandwidth Control:
 Egress rate limiting, Ingress rate limiting

Security

Supports IEEE 802.1x port-based and MAC-based access control
RADIUS authentication
TACACS+ Authentication
Access Control List
SSH (v1.5/v2.0), SSL

Management

Switch Management:
 CLI via console port or Telnet
 WEB management
 SNMP v1, v2c, v3
Firmware & Configuration:
 Dual firmware images
 Firmware upgrade via TFTP server
 Multiple configuration files
 Configuration file upload/download via TFTP server
Support Port Mirroring
Supports RMON (groups 1, 2, 3 and 9)
Supports BOOTP, DHCP for IP address assignment
Supports SNMP
Event/Error Log/Syslog

Mechanical

Dimensions (H x W x D): 266 x 440 x 421 mm (6RU)
AC Power Input:
 90 ~ 264VAC, 50 ~ 60Hz
 Built-in Universal Power Supplies
 Power Output for single power Supply : 400W (max)

Safety

CSA/NRTL (UL60950, CSA 22.2.No 60950-00)
TUV/GS (EN60950)
CB

Electromagnetic Compatibility

CE Mark
FCC Class A
VCCI Class A

Environmental Specifications

Temperature:
 IEC 68-2-14
 0℃ to 40℃ (Standard Operating)
 -40℃ to 70℃ (Non-Operating)
Humidity: 10% to 90% (Non-condensing)

Warranty

One year warranty

Ordering Information

Optional Accessories

- EM4704BD-AC
- EM4700BD-24TX4GC
- EM4700BD-12GT12GC
- EM4700BD-12GT12GC2XG
- EM4700BD-48GT
- EM4700BD-48GX
- EM4700BD-4GX-XFP
- EM4704BD-M12GT12GC1XG
- EM4704BD-M44GT

Product Description

- 220V AC Power Supply
- 24 10/100Base-TX and 4 Gigabit Combo Ports (SFP/RJ-45)
- 24 1000Base-X (SFP)+12 10/100/1000Base-T Combo Ports
- 24 1000Base-x (SFP) +12 10/100/1000Base-T Combo Ports+2 10G XFP Ports
- 48 10/100/1000Base-T ports
- 48 10/100/1000Base-X (SFP) ports
- 4 10G port (XFP interface)
- 24 1000Base-X (SFP) + 12 10/100/1000Base-T Combo Ports + 1 10G XFP Ports
- 44 10/100/1000Base-T ports