ES4710BD
Chassis Core Routing Switch

Product Overview

The Edge-Core ES4710BD is a high performance, 10-slot, Layer 3 chassis switch. It can work in single or redundant 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 ES4710BD 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 ES4710BD 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 ES4710BD supports up to 32 10G ports or 384 (48x8) Gigabit ports, providing flexibility and high port density.

10G modules support 4 ports for downlink to L3 Gigabit distribution layer switches or L2 Gigabit switches, aggregating them to the core layer, and preventing port bottlenecks in Gigabit switches. Furthermore, the optional 10Gigabit Ethernet XFP transceivers can be chosen for different distance fiber uplinks.

Backup Master ensures the availability of a master controller for network control at any time.

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 slave units for management simplicity.

Intensive protocol support is included for MPLS, MPLS-VPN, MPLS-TE and IPv6 policy routing ensuring future investment protection.

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 ES4710BD 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- and MAC-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.

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, FTP and xmodem.

Enterprise Solution

Features

Physical Ports

10 open slots
1 AC power supply and 2 additional open slot for optional power supply
Max. number of 10 Gigabit ports: 32
Max. number of Gigabit ports: 384

Performance

Backplane Capacity: 320Gbps
Forwarding Rate: 250Mpps
Mac Address Table Size: 128K

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
    IEEE802.1v Protocol VLAN
    QinQ
    Voice VLAN
    MAC-based VLAN
    Auto VLAN assignment
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
    BPDU source guard
IGMP Snooping:
    IGMP Snooping
    IGMP v1/v2/v3
    IGMP Query

L3 Features

IPv4/IPv6 static routing
ARP
Multi-netting
Super-netting (CIDR)
BGP4+
RIPv1/v2, RIPng
OSPF v2/v3
BGP4+
MD5 authentication LPM routing
DVMRP, PIM-DM，PIM-SM,PIM-SSM,MSDP
Multicast Listener Discovery (RFC2710)
VRRP
DHCP/BootP relay, DHCP server
URPF for IPv4 and IPv6

MPLS

LDP
L3 MPLS VPN
VLL/VPS*
MPSL-TE/FRR*

QoS Features

Priority Queues: 8 hardware queues per-port
Traffic classification based on IEEE 802.1p CoS, IP Precedence, DSCP, TCP/UDP port number
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)

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 and FTP server and XMODEM
Support Port Mirroring
Supports RMON (groups 1, 2, 3 and 9)
Supports BOOTP, DHCP for IP address assignment
Supports SNTP
Event/Error Log/Syslog

Mechanical

Dimensions (H x W x D): 797 x 436 x 478 mm (19RU)
AC Power Input:
- 90 ~ 264VAC, 50 ~ 60Hz
- Built-in Universal Power Supplies
- Power Output for single power Supply: 1200W (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

Future upgradeable

Ordering Information

Optional Accessories

Optional Accessories	Product Description
EM4710BD-AC	-220V AC Power Supply
EM4710BD-AGENT	-Management module
EM4710BD-AGENT 2	-Second Generation Management Module, support MPLS
EM4700BD-24TX4GC	-24 10/100Base-TX and 4 Gigabit Combo Ports (SFP/RJ-45)
EM4700BD-12GT12GC	-24 1000Base-X (SFP)+12 10/100/1000Base-T Combo Ports
EM4700BD-12GT12GC2XG	-24 1000Base-x (SFP) +12 10/100/1000Base-T Combo Ports+2 10G XFP Ports
EM4700BD-48GT	-48 10/100/1000Base-T ports
EM4700BD-48GX	-48 10/100/1000Base-X (SFP) ports
EM4700BD-4GX-XFP	-4 10G port (XFP interface)