SWM-5828-S-M2A

CARRIER LEVEL AGGREGATION LAYER 3 ETHERNET SWITCHES

FULL GIGA

Overview

CXR SWM-5828 switch is a new generation of full-10GE TOR switches, oriented for high-performance computing, data center and high-end campuses. It adopts our most advanced hardware architecture designs.
CXR SWM-5828 switch (1U height) supports up to 2.56Tbps switching capacity and 24 10GE ports + 4 40G/100G ports or 28 10GE ports.

**FULL
L3
FUNCTIONS**

CXR SWM-5828 switch supports BVSS, TRILL, SDN and FCoE/ FC.

Developed on the basis of BDROS 6 - a software platform CXR with its own independent intellectual property rights, SWM-5828 switch provides high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6, MPLS VPN, network security, flow analysis, virtualization, with high reliable techniques including continuous forwarding, graceful restarting and loop network protection, all which works efficiency within the SWM-5828 switch fabric for guaranteed maximum runtime.
SWM-5828 switch supports the "GreenTouch" architecture and "Smart@CHIP".

**10GE
40GE
100GE**

Carrier-Level Aggregatiion Layer-3 Ethernet Innovative Virtual Switch System:

virtualize multiple physical devices into one. The performance, reliability and management capabilities of the virtual system combine to outperform that of individual physical devices;

Improved Performance: BVSS makes full use of each link in the physical device cluster, which avoids STP blocking on links and protects the original link to the maximum;
* Support 8 units stacking BVSS in roadmap 2020.

High Reliability: Based on the advanced distribution mechanism and efficient cross-physical link aggregation function, the logic control plane, service control plane and service data plane are separated. Thus, the device can support continuous layer3 routing forwarding, avoiding service interruption as a result of a single point of failure;

Easy Management: BVSS realizes single IP management, greatly improving the networking efficiency and lowering operating costs.

Product Characteristics

Rich Data Center Services

BVSS (Virtual Switch System)
SWM-5828 switch supports BVSS, which can virtualize multiple physical devices into a single logical element. The virtualized system is superior to the independent physical device in performance, reliability, flexibility and management.
Doubled Performance: The virtualized system makes the best use of each link in the device and avoids blocking of STP to the links.
High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, , the SWM-5828 switch provides non-stop layer-3 routing forwarding and avoids single points of failure.
Flexibility: The virtual cluster function of the SWM-5828 allows the distance of a cluster system to expand over up to 80KM, breaking the geographic restrictions of traditional cluster techniques.
Easy Management: The whole virtual system realizes single IP unified management and simplifies the management of network device and network topology.
*Large Layer-2 Network Technique: SWM-5828 switch adopts large layer-2 network technique which supports TRILL/SPB protocol. With this technique, the network structure has become simplified and compact, which better enables access for data center, large-scale servers.
*Unified Architecture: SWM-5828 switch supports FCoE (FC over Ethernet) technique, which solves the problem of discrepancy between LAN network and FC storage network and integrates computing, data and storage networking.
*SDN: SWM-5828 switch supports SDN (Software Defined Network), which can realize network virtualization and centralized management.

Security+

Equipment-level security: The advanced hardware infrastructure design realizes the level-based packet schedule and packet protection, prevents DoS-/TCP- related SYN Flood, UDP Flood, Broadcast Storm or large traffic attacks, and supports level-based command line protection, endowing different levels of users with different management permissions.
Perfect security authentication mechanisms: IEEE 802.1x, Radius and BDTacacs+.

SWM-5828 switch supports storm/multicast/unicast limits, ensuring normal running conditions of the equipment when deployed in harsh network conditions.
SWM-5828 switch supports perfect ring detection mechanisms, ensuring long-term network performance stability.
SWM-5828 switch supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

Versatile IPv6 Solution

SWM-5828 switch supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery, DHCPv6, etc.;
SWM-5828 switch supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6;
SWM-5828 switch supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.;
Supports IPv6 tunnel: manual tunnel, automatic tunnel, GRE tunnel, 6to4 tunnel, ISATAP;
SWM-5828 switch supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Data Center Level High-reliability

SWM-5828 switch adopts HPS (Hitless Protection System). The key components of he SWM-5828 switch such as the power system and the fan system supports redundancy in design. All system modules support hot-swap and seamless switching without need of manual intervention.
SWM-5828 switch supports redundancy protection mechanisms such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.
SWM-5828 switch supports ISSU (In-Service Software Upgrade), guaranteeing non-stop forwarding of service data while the system is upgrading.
SWM-5828 switch supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.
SWM-5828 switch has perfect Ethernet OAM, 802.3ah, 802.1ag and ITU-Y.1731 which can monitor the network operating state in real time and rapidly detect and locate the malfunction.
High Reliability (99.999%): The MTTR of the SWM-5828 switch is 50ms
 satisfying the requirement for reliable delivery of carrier-level service

Features

VLAN	4K Active VLAN, QinQ & Selective QinQ, GVRP, Private VLAN
Spanning Tree	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP). BPDU guard, root guard and loopback guard
Multicast	PIM-SM, PIM-DM, IGMP v1/v2/v3, IGMP Snooping, 256 Groups IGMP IGMP Fast Leave, MVR, IGMP filter
IPv4	Static routing, RIP v1/v2, OSPF, BGP, PBR, ECMP BFD for OSPF, BGP
IPv6	ICMPv6, DHCPv6, ACLv6 and IPv6 Telnet IPv6 neighbor discovery, Path MTU discovery MLDV1/V2, MLD snooping IPv6 Static Routing, RIPng, OSPFv3, BGP4+ Manual tunnel, ISATAP tunnel, 6 to 4 tunnel
Standard	· RFC 2460, RFC 1981, RFC 2080, RFC 4443, RFC 4962, RFC 3801, RFC 4862, RFC 4213, RFC 4291, RFC 4861
MPLS	LDP protocol, Multi-VRF, MPLS L2 VPN
QoS	CAR, HQoS, MAC/IP/TCP/UDP/ VLAN/COS/DSCP/TOS based QoS, 802.1P/DSCP priority re-labeling, SP, WRR, and "SP+WRR", Tail-Drop, WRED, flow monitoring and traffic shaping
Security	Port isolation, Port security, and "IP+MAC+port" binding, MAC sticky DHCP Snooping and option 82, DAI & IP source guard, PPPoE+, IEEE 802.1x, Radius and BD Tacacs+ L2/L3/L4 ACL flow identification and filtration Anti-attack from DDoS, TCP's SYN Flood, UDP Flood, etc. Broadcast/multicast/unknown unicast storm-control · MD5, SHA-256, RSA-1024, AES256, etc.
Reliability	Static/LACP link aggregation, Interface backup BVSS virtual-stacking EAPS and ERPS URPF, LLDP ISSU VRRP 1+1 power backup
Management	Console, Telnet, SSH v1/2, HTTP HTTPS, SNMP v1/v2/v3, RMON TFTP, FTP, SFTP (NTPv4-RFC5905), SPAN, RSPAN Sflow, Syslog
Environment	Operating temperature/humidity: 0°C-50°C, 10%-90% non-condensing Storage temperature/humidity: -20°C-70°C, 5%-95% non-condensing
Certification	CE, FCC, ROHS

Smart Solutions for Smart Networks

Technical Characteristics

Interface	24 10GE/GE SFP+ ports, 4 100GE/40GE QSFP28 ports
Console	1 RJ45 console, 1 MGMT
Backplane	800 Gbps
Forwarding rate	600Mpps
Chassis (Package) **Dimensions (mm) / Weight (Kg)**	440x350x44 / 7.1 (576x448x94 / 8.3)
Power Consumption no-load/full-load	45W/70W
Power supply (hot-swap)	2
Power supply monitoring	Support
Total output BTU (1000BTU/H=293W)	238.91
Fan number	4
Noise@25°C (dBA)	57
MTBF (H)	>100.000
Forwarding mode	Store-forward
BVSS member	4
BVSS port	10G/40G/100G
Flash (MB)	64
DRAM (MB)	1024
MAC	32K
Jumbo frame	16K
Routing table IPv4/IPv6	16K/12K
VRF Group	24
Multicast group	1K
ARP table IPv4/IPv6	10K/10K
Link Aggregation	8 groups/8 ports
Total SVI	1K

Ordering Information

Reference	Description
SWM-5828-S-M2A	Ethernet routing switch with 24 10GE ports, 4 100GE ports (1 console port, 1 out-band port, 24 10GE/GE SFP+ ports, 4 100GE/40GE QSFP28 ports (can expand to 4 10GE ports); 2 power slots with 2 hot-swwap 100~240VAC, frequancy 50 to 60Hz power supplies; 4 fan slots including 4 fans; 1U,19-inch rack-mouned installation

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