SICOM8648X Series

Product Overview

Kyland SICOM8648X Series is a new generation full-10GE TOR switches oriented for high- performance computing, data center and high- end campuses. SICOM8648X Series adopts the advanced hardware architecture design.

SICOM8648X Series (1U height) supports up to 2.56Tbps switching capacity and 48 10GE ports + 2 40GE ports + 4 100G ports or 72 10GE ports.

SICOM8648X Series supports KVSS, TRILL, SDN and FCoE/ FC. By cooperating with SICOM6896G Series, SICOM8648X Series can converge data of 15000+ 10GE servers.

Developed on the basis of ROS 6 - a software platform Kyland with its own independent intellectual property rights, SICOM8648X Series 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, the work efficiency of SICOM8648X Series and its maximum running time are guaranteed.

SICOM8648X Series supports the “GreenTouch” architecture and “Smart@CHIP”. Its power consumption is lower than 200W.

Carrier-Level Aggregation Layer-3 Ethernet Switch Innovative KVSS (KYLAND Virtual Switch System):

Virtualize multiple physical devices into one. The performance, reliability and management of the virtual system are superior to the physical ones;

Improved Performance: KVSS makes full use of each link in the physical devices, which avoids STP blocking the link and protects the original link to the maximum extent;

High Reliability: Based on the advanced distribution mechanism and efficient cross-physical link aggregation link 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: KVSS realizes single IP management, greatly improving the networking efficiency and lowering the operating cost.

Product Characteristics

Rich Data Center Services

KVSS (Kyland Virtual Switch System)

SICOM8648X Series supports KVSS, which can virtualize multiple physical devices into one in logic. The virtualized system is superior to the independentphysical device in performance, reliability, flexibilityand management.

Doubled Performance: The virtualized system makes the best use of each link in the device and avoids the blocking of STP to the link.

High-reliability: Based on the advanced distributed processing technique and the efficient function ofcross-physical device link aggregation, SICOM8648X Series provides with non-stop layer-3 routing forwarding and avoids single points of failure.

Flexibility: With the function of SICOM8648X virtual clusters,the distance of virtual cluster system can expandto 80KM, breaking the geographic restriction oftraditional cluster technique.

Easy Management: The whole virtual systemrealizes single IP unified management and simplifiesthe management of network device and networktopology.

Large Layer-2 Network Technique: SICOM8648X Series adopts large layer-2 network technique which supports TRILL/SPB protocol. With the technique, the network structure has become simple and compress, which can access to data center large-scale servers.

Unified Architecture: SICOM8648X Series supports FCoE (FC over Ethernet) technique, which solves the problem of discrepancy between LAN network and FC storage network and integrates computing, dataand storage networking.

SDN: SICOM8648X Series 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: IEEE802.1x, Radius and Tacacs+.

SICOM8648X series supports storm/multicast/unicast limit, ensuring the normal running of equipment in harsh network conditions.

SICOM8648X series supports perfect ring detection mechanism, ensuring the long-term stable running ofnetwork.

SICOM8648X series supports port isolation within the same VLAN, DHCP-Snooping, and IP + MAC + Port binding.

Versatile IPv6 Solution

SICOM8648X Series supports the IPv6 protocol suite, IPv6 neighbor discovery, ICMPv6, path MTU discovery,DHCPv6, etc.;

SICOM8648X Series supports Ping, Traceroute, Telnet, SSH, ACL based on IPv6;

SICOM8648X Series supports MLD, MLD Snooping, IPv6 static routing, RIPng, OSPFv3 and BGP4+, etc.; Supports IPv6 tunnel: manual tunnel, automatictunnel, GRE tunnel, 6to4 tunnel, ISATAP;

SICOM8648X Series supports IPv4 transiting to IPv6: IPv6 manual tunnel, automatic tunnel, 6 to 4 tunnel, ISATAP tunnel.

Data Center Level High-reliability

SICOM8648X Series adopts HPS (Hitless Protection System). The key components of SICOM8648X Series such as the power system and the fan system support redundancy design. All system modules support hot-swap and seamless switching without need of manual intervention.

SICOM8648X Series supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/stand by link protection and LACP link aggregation.

SICOM8648X Series supports ISSU (In-Service Software Upgrade), guaranteeing the user data non-stop forwarding when the system is upgrading.

SICOM8648X Series supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.

SICOM8648X Series has perfect Ethernet OAM, 802.3ah, 802.1ag and ITU-Y.1731 which can real time monitor the network operating state and rapidly detectand locate the malfunction.

High Reliability (99.999%): MTTR of SICOM8648X Series is 50ms, meeting the requirement of the carrier-levelservice.

Product Specifications

ITEM		SICOM8648XX-4CX24X-HV-HV	SICOM8648XX-4CX2QX48X-HV-HV
Interface		24 10GE/GE SFP+ ports,4 100GE/40GE QSFP28 ports	48 10GE/GE SFP+ ports, 2 40GE QSFP+ ports, 4 100GE/40GE QSFP28 ports
Console		1 RJ45 Console, 1 MGMT	1 RJ45 Console, 1 MGMT
Backplane		800Gbps	1920Gbps
Forwarding Rate		600Mpps	1440Mpps
Classis	Dimensions(WxDxH)(mm)	440x350x44	442x404x44
	Weight(KG)(Empty)	7.1	8.8
Package	Dimensions(WxDxH)(mm)	576x448x94	616x448x140
	Weight(KG)	8.3	10
Power Consumption	No- load	45W	102W
	Full- load	70W	147W
Power Supply(Hot-swap)	AC: 100V-240V,50Hz ± 10%	2	2
Power State Monitor		Support	Support
Total Output BTU	1000BTU/H=293W	238.91	501.71
Fan Number		4	4
Noise@25℃(dBA)		57	57
MTBF(H)		>100000	>100000
Forwarding mode		Store-forward	Store-forward
Flash(MB)		32	64
DRAM(MB)		1024	512
MAC		32K	64K
Jumbo Frame		9K	9K
Routing Table	IPv4	16K	8K
	IPv6	12K	4K
ARP Table	IPv4	10K	4K
	IPv6	10K	4K
Total SVI		1K	1K

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,

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

MLD V1/V2, MLD snooping

IPv6 Static Routing, RIPng, OSPFv3, BGP4+

Manual tunnel, ISATAP tunnel, 6 to 4 tunnel

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 Tacacs+ L2/L3/L4 ACL flow identification and filtration Anti-attack

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

KVSS virtual-stacking

EAPS and ERPS

URPF, LLDP, ISSU

VRRP

1+1 power backup

Management

Console, Telnet, SSH v1/2, HTTP

HTTPSSNMP v1/v2/v3, RMON

TFTP, FTP, SFTP

NTP, SPAN, RSPAN

Environment

Operating temperature/humidity:

0℃ -50℃ ,10%-90% non-condensing

Storage temperature/humidity:

-20℃ -70℃ , 5%-95% non-condensing

Certification

CE, FCC, ROHS