CS16800 Series Cloud Stone Core Layer Routing Switch

CS16809

Product Overview

Digital China Networks CS16809 is designed to meet the requirement of mission-critical data centers with high performance, exceptional availability and outstanding scalability. It has 2 management slots and 9 business slots, delivering the highest capacity 10GE, 40GE and 100GE ports in 14U-Chassis in the industry, with up to 432 10GE ports, or 144 40GE ports, or 72 100GE ports

CS16809 is ideal for core layer of data center or campus network, and core/aggregation of IP metropolitan networks.

Product Feature

Adaptive Campus & IDC network

The Campus network prefers traditional 3-Layer Infrastructure, to connect PC, mobile device, with 'smaller layer 2 but bigger layer 3'hardware tables, like IPv6 routing and MPLS tables. But IDC network often prefers 2-Layer Infrastructure, to connect server, storage. It needs 'bigger layer 2 but smaller layer 3'hardware tables with features like virtualization, TRILL, VEPA etc. CS 16809 supports assigning table resource dynamically, with abundant datacenter features, to meet both requirements from Campus and IDC Infrastructure.

Adaptive Traditional business & SDN business network

CS16809 supports OpenFlow1.3 for SDN network (Software Defined Network), which can make the upgrade smoothly from traditional network to SDN network, to reduce the TCO.

14U Compact design

With 14U compact design, 3 pieces of CS16809 can be installed in one cabinet, delivering maximum 432 40GE ports or maximum 1296 10GE ports, which makes highest port density in industry.

Three separate planes (management, control and switching)

CS 16809 has three separate planes: management plane, control plane, and switching plane for system robust and high availability. If one of them crashed, it won't impact other business.

Dual Power Supply Planes

CS16809 adopts A+B Dual Planes of Power Supply, supporting 1+1 redundancy and N+N redundancy in one single Power Supply.

■ Specifications

Items	CS16809

Slot	2 management slots
	4 fabric card slots
	9 business slots
Business Ports	1GE : MAX 432
	10G : MAX 432
	40G: MAX 144
Performance	
Switching Capacity	10.24Tbps (can upgrade to 20.48Tbps)
Forwarding Rate	7618Mpps (can upgrade to 15237Mpps)
MAC Table	288K-400K
Routing Table	IPv4 8K / IPv6 4K
VLAN Table	4K
Features	
System Architecture	CLOS
Forwarding	Storage and Forwarding
L2 Features	IEEE802.3(10Base-T)
	IEEE802.3u(100Base-TX)
	IEEE802.3z(1000BASE-X)
	IEEE802.3ab(1000Base-T)
	IEEE802.3ae(10GBase)
	Loopback Interface
	9k Jumbo Frame
	Port Loopback Detection
	LLDP and LLDP-MED
	UDLD
	LACP 802.3ad, max 128 group trunks with max 8 ports for each trunk
	Link Aggregation by manual
	IEEEE802.1d(STP)
	IEEEE802.1w(RSTP)
	IEEEE802.1s(MSTP) Max 48 instances
	Root Guard
	BPDU Guard
	BPDU Forwarding
	One to one or any to one mirror
	Mirror cross business cards
	RSPAN
	IGMP v1/v2/v3, IGMP v1/v2/v3 Snooping, IGMP Proxy
	ICMPv6, ND, ND Snooping, MLDv1/v2, MLDv1/v2 Snooping

	GVRP
	Port/ MAC/ IP Segment/ Portocol/ Voice/ Private/ VLAN support
	Multicast VLAN Register/MVR for IPv4 and IPv6
	Port-based 802.1Q, 4K VLAN
	QinQ and Selective QinQ
	DFI/Broadcast/Multicast Stormcontrol
	Binding(IPv4/IPv6), IP Source Guard MAC Filter, MAC Limit
	IP Source Guard
	Port Binding(IPv4 /IPv6)
	Support Smart Link (or named Flexible Link)
L3 Features	IP Protocol(IP support both of IPv4 and IPv6)
	Default Routing, Static Routing, Blackhole Route, VLSM and CIDR,
	RIPv1/V2, OSPFv2, BGP4, support MD5 Authentication LPM Routing
	OSPFv3, BGP4+ support
	Policy based Routing(PBR) for IPv4 and IPv6
	Support 4 byte BGP AS number
	Support GR for OSPF and BGP
	VRRP, VRRP v3
	DVMRP, PIM-DM, PIM-SM, PIM-SSM
	MSDP(Multicast Source Discovery Protocol)
	Static Multicast Route
	Multicast Edge Configure
	Any cast RP for IPv4 and IPv6
	PIM-SM/DM/SSM for IPv6, 6 to 4 Tunnels, configured Tunnels, ISATAP
	Multicast Receive Control
	Illegal Multicast Source Detection
	URPF for IPv4 and IPv6
	BFD
	ECMP(Equal Cost Multi-Path)with maxim 8 groups
	ARP Guard, Local ARP Proxy, Proxy ARP, ARP Binding, Gratuitous ARP, ARP Limit
Data Center features	VSF
	TRILL*
	VEPA*
	SDN OpenFlow1.0/1.3*
	(support open controller Opendaylight，Floodlight，Ryu，Pox, etc.)

Tunnel Technical	Manual Configure IPv4/IPv6 tunnel
	6to4 Tunnel
	ISATAP Tunnel
	GRE Tunnel
MPLS	255 VRF/VFI
	LDP
	L3 MPLS VPN
	L2 VLL/VPLS
	MPLS/VPLS Proxy
	Cross Domain MPLS VPN
	MPLS QOS
	*supported by software upgrade in future
QoS	8 Hardware Queues per port
	Traffic Classification based on IEEE 802.1p, ToS, port and DiffServ
	SP, WRR, SWRR
	Traffic Shaping
	Rate Limit for Import and Export
	PRI Mark/Remark
	WRED
	2 buckets with dual rate and triply color mark
ACL	Standard and Expanded ACL
	IP ACL and MAC ACL,
	ACL based on source/definition IP, MAC, L3 protocol, TCP/UDP port number, IP PRI(DSCP, ToS, Precedence), Time
	Ingress and Egress ACL
ACL-X	Time-Based Security Auto-negotiation
	ACL rules can be configured to port, VLAN, VLAN routing interfaces
	Can be used for QoS Classification
Anti-attack and Security	S-ARP: ARP Inspection, defense ARP-DOS Attack and Address Clone
	Anti-Sweep: prevent Ping Sweep
	S-ICMP: resist PING-DOS attack, ICMP unreachable attack
	S-Buffer: prevent DDOS attack
	Switch engine CPU protection
	Key message priority: secure processing of key legal messages
	Port credit: inspect illegal DHCP Server, Radius Server. Connection via credit port only
	Support URPF, avoid IP address clone

	All the above technologies efficiently prevent various DOS attack (e.g. ARP, Synflood, Smurf, ICMP attack), support ARP monitoring, defense Worm, Bluster, check sweep and raise alarm
DHCP	Support DCHP Client, Relay, Snooping, Option 82
	DHCP Server for IPv4 and IPv6
	DHCP v6 and DHCP Snooping v6
DNS	DNS Client
	DNS Proxy
Ring Protocol	MRPP (Multi-Ring Protect Protocol)

Access security	802.1X
	    Port, MAC, username based
	    Account based on time length and traffic
	    Guest VLAN and Auto VLAN
	    Work with private client can manage P2P traffic
	MAC Based AAA(Client free access)
	PPPOE/PPPOE+ forwarding

AAA	RADIUS AAA for IPV4 and IPv6 TACACS+ AAA
Configuration and Management	CLI, Telnet, WEB, SSH and SSL
	SNMPv1/v2c/v3
	MIB
	RMON 1, 2, 3, 9
Power Saving Technology	Reduce power consumption, improve cooling and reliability Flexible fan and port management to save power consumption
SysLog	Save Syslog and Trap to local device or server Max. 8 servers for Syslog or Trap receive
NMS	Strict Access Control by ACL and QOS
	Access the switch through AAA or Local Authentication
	SNTP and NTP
	Setup Time Zone and Summer Time
Supervision and Trouble Shooting	Supervise abnormity of task, memory, CPU, stack, switch chip, temperature and raise alarm Sflow IPFIX (IP Flow Information Export) Ping and Trace route command
Configuration Management	Configuration file storage Command operation log Dual Images and files startup FTP/TFTP server or client upgrade

OAM	802.3ah
	802.1ag
Physical	
Dimension(W x D x H)	444mm×753mm ×620.8mm (14U)
Relative Humidity	10%~90%, non-condensing
Storage Temperature	-40℃~70℃
Operating Temperature	0℃~45℃
Power supply	AC: Input 90~264V, 50~60 Hz:

■ Order Information

Product	Description
CS16809	CS16809 dual stack backbone routing switch chassis (2 management slots, 4 fabric card slots and 9 line slots), standard with 4 fan trays, no fabric, management cards and no power modules.
M16K-SUP	CS16809 management card. one fabric card at least is needed to support CS16809 working.
M16K-FC	CS16809 switch fabric modules with bandwidth reaching 1.28T; the integrated equipment supports up to 4 Switch fabric modules. At least 1 fabric module need be installed.
M16K-8-100G*	CS16809 line card with 8 100G Ethernet ports
M16K-16Q	CS16809 line card with 16 QSFP+ ports
M16K-48XS2Q	CS16809 line card with 48 SFP+ and 2 QSFP+ ports
M16K-24T24S2XS	CS16809 line card with 24GT, 24GX and 2 10SFP+ ports
M16K-PAC	CS16809 AC power supply
M16K-FAN	CS16809 FAN Module

■ Contact us

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