

Product Highlights

40G Campus Network Core Switches

Advanced Hardware Architecture and Industry-leading Port Density

99.999% Carrier-level Reliability

Varied Service Characteristics Versatile IPv6 Solution Complete Security Mechanism



DGS-8600E SERIES CHASSIS SWITCHES

DGS-8600E Series, a new generation carrier-level core switch oriented for carrier's IP MANs and campus networks. Developed on the leading architecture of distributive multi-stage switching matrix and software platform, DGS-8600E Series provides high-performance L2/L3/L4 wire speed switching capacity by integrating services such as IPv6, network security, flow analysis, virtualization, with high reliable techniques including continuous forwarding, graceful restarting and loop network protection, the work efficiency of DGS-8600E Series and its maximum running time are guaranteed.

DGS-8600E Series supports Green Architecture, significantly reducing equipment energy consumption, effectively cutting down operation and maintenance costs, and providing a perfect solution for the green and sustainable development of the network.

DGS-8600E Series consists of three models: DGS-8603E, DGS-8606E and DGS-8610E, which can meet the port density and performance requirements of different network scales.

Advanced Hardware Architecture Design & Leading Processing

Capacity

With the leading architecture of distributive multi-stage switching matrix, the ASIC switch chip and the multi-core processor, DGS-8600E Series meets the carrier-level core equipment requirements of high performance, high capacity, high density and expansion. DGS-8600E Series supports high-intensity 10G service boards and realizes the wire-speed switching of 3 layers without blocking.

Carrier-level High Reliability

DGS-8600E Series adopts HPS (Hitless Protection System). The key components of DGS-8600E Series such as the main control unit, power system and the fan system support redundancy design. All system modules support hot-swap and seamless switching without manual intervention.

DGS-8600E Series supports redundancy protection mechanism such as STP/RSTP/MSTP protocol, VRRP protocol, ring network protection, dual uplink active/standby link protection and LACP link aggregation.

DGS-8600E Series supports BFD and realizes fault detection and service recovery in seconds through linking with layer-2 or layer-3 protocol.

Innovative VSS Technique

DGS-8600E Series supports VSS (Virtual Switch System), which can virtualize multiple physical devices into one in logic. 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 the blocking of STP to the link.

High-reliability: Based on the advanced distributed processing technique and the efficient function of cross-physical device link aggregation, DGS-8600E Series provides with non-stop layer-3 routing forwarding and avoids single points of failure.

Flexibility: With the function of DGS-8600E virtual cluster service cards, the distance of virtual cluster system can expand to 80KM, breaking the geographic restriction of traditional cluster technique.

Easy Management: The whole virtual system realizes single IP unified management and simplifies the management of network device and network topology

Comprehensive IPv6 Solutions

DGS-8600E Series comprehensively supports IPv6 Neighbor Discovery, ICMPv6, Path MTU Discovery and DHCPv6.

DGS-8600E Series supports IPv6-based Ping, Traceroute, Telnet, SSH, ACL, meeting the need of IPv6 network equipment management and service control.

DGS-8600E Series supports IPv6 multicast characteristics including MLD, MLD Snooping and IPv6 layer-3 routing protocols including IPv6 static routing, RIPng, OSPFv3 and BGP4+.

DGS-8600E Series supports IPv4-to-IPv6 technologies including IPv6 manual/automatic tunnel, auto tunnel.

Comprehensive Service

DGS-8600E Series supports complete layer-2 and layer-3 multicast routing protocol and meets the access requirement of IPTV, multi-terminal high-definition video monitoring and high-definition video meeting.

DGS-8600E Series supports complete layer-3 routing protocol and a super-large routing table capacity, which make super-large data center network, campus network, enterprise network and industry private networks available.

Comprehensive Security Mechanisms

DGS-8600E Series adopts advanced hardware architecture design, realizing the hierarchical scheduling and protection of the packet. It provides multiple security measures to defend against DOS or TCP attacks; and supports command line authority control based on user levels.

Comprehensive Security Certification: DGS-8600E Series complies with IEEE 802.1x, Radius, Tacacs+.

Enhanced Service Security Mechanism: S8600E Series supports the plain text or MD5 authentication of relevant routing protocol; uRRF.

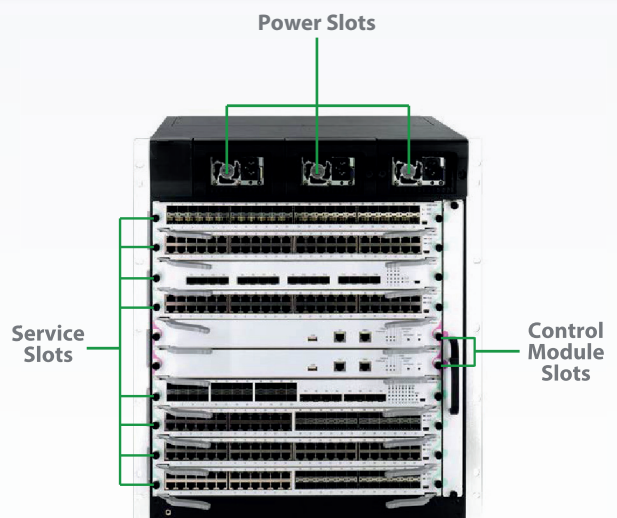
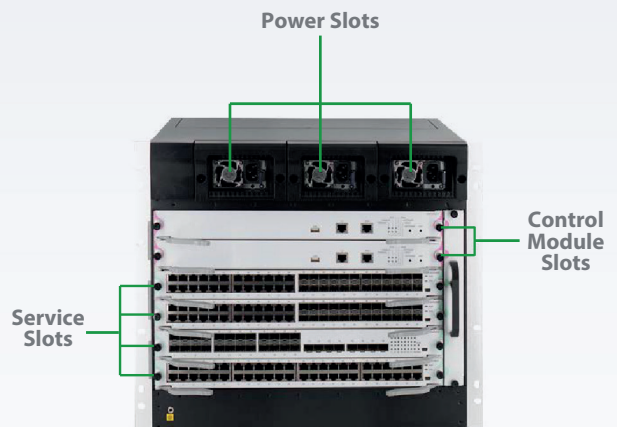
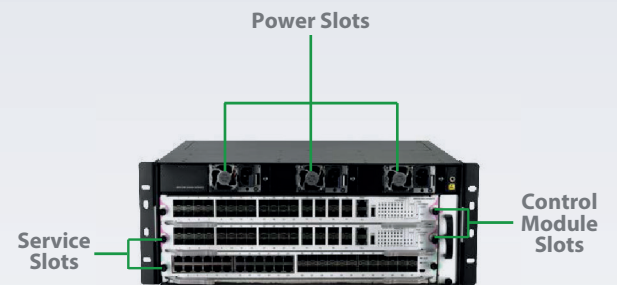
Innovative Green Environmental Design

DGS-8600E Series supports Green Architecture. Its power consumption is no more than 1000W.

Smart Power Management System: DGS-8600E Series adopts advanced power system architecture design which can realize the function of efficient power switching, private power monitoring, soft start, real-time monitoring, intelligent adjustment and energy-saving.

Smart Fan Management System: DGS-8600E Series is designed with the intelligent fan and supports switching between front-back mode and back-front mode and fan automatic speed regulation.

DGS-8600E Series supports Efficient Ethernet and complies with International standard IEEE 802.3az.



Features

MAC Switching

- Static configuration and dynamically learning of MAC address
- Check and clear MAC address
- Configuring of MAC address aging time
- Limit on MAC address learning number
- MAC address filtering function
- Black-hole MAC items

VLAN

- 4K VLAN entries
- GVRP
- 1:1 and N:1 VLAN Mapping
- Basic QinQ and selective QinQ
- Private VLAN

Reliability

- Dual Master Control Redundancy
- Power N+M backup
- Master control, service card hot swap and service automatic recovery
- Static/LACP link aggregation and cross service card link aggregation
- Ring network protection including EAPS
- VRRP
- GR for OSPF and BGP
- BFD for OSPF and BGP

STP

- 802.1D (STP), 802.1W (RSTP), 802.1S (MSTP)
- BPDU protection, root protection and ring protection

Multicast

- IGMP v1/v2/v3
- IGMP Snooping
- IGMP Fast Leave
- Multicast group policy and multicast number limit
- MVR
- PIM-SM and PIM-DM

IPv4

- Static routing, RIP v1/v2, OSPF and BGP
- Policy routing
- Load balance through equal-cost routing
- Graceful Restart of OSPF and BGP
- BFD for OSPF and BGP

IPv6

- ICMPv6, DHCPv6, ACLv6, IPv6 Telnet
- IPv6 Neighbor Discovery
- Path MTU Discovery
- MLD and MLD Snooping
- IPv6 static routing, RIPng, OSPFv3 and BGP4+
- Manual tunnel.

Management and Maintenance

- Console, Telnet and SSH
- SNMP v1/v2/v3
- Upload and download of TFTP files
- Remote Network Monitoring (RMON)
- Statistics analysis of sFLOW.

QoS

- Traffic classification of each field of L2/L3/L4 protocol headers
- 802.1P/DSCP priority remark
- Multiple queuing algorithms such as SP, WRR or SP+WRR
- Tail-Drop.
- Traffic supervision and traffic shaping
- Ingress and Egress ACL, and matching L2, L3, L4 and IP quintuples for copying, forwarding and discarding
- Hash algorithms and load balancing

Security features

- Identification and filtering of L2/L3/L4 based ACL
- Defend against DoS or TCP attacks
- Suppression of broadcast, multicast and unknown unicast packet
- Port isolation
- Port security, IP + MAC + port binding
- DHCP Snooping, DHCP Option 82
- IEEE 802.1x authentication
- Radius and BD Tacacs+ authentication
- uRPF
- Command line authority control based on user levels

Value-added services

- VSS

Energy saving

- IEEE 802.3az green Efficient Ethernet

Environment

- Operating temperature/humidity: 0°C-40°C ; 10%-90% non-condensing
- Storage temperature/ humidity: -20°C-70°C ; 5%-95% non-condensing



DGS-8603E
1 fan module
3 power slots
1 CM slot
1 CM/Service slot
1 Service slot



DGS-8606E
1 fan module
3 power slots
2 CM slots
4 Service slots



DGS-8610E
1 fan module
3 power slots
2 CM slots
8 Service slots

Technical Specifications

Items	DGS-8603E	DGS-8606E	DGS-8610E
Interface			
Backplane	688 Gbps	1.28 Tbps	2.56 Tbps
Forwarding rate	512 Mpps	952 Mpps	1905 Mpps
Total Number of slots	3	6	10
MCU slots	1+1	2	2
Business slots	3	4	8
Performance/ Storage			
Energy saving	IEEE 802.3az green Efficient Ethernet	IEEE 802.3az green Efficient Ethernet	IEEE 802.3az green Efficient Ethernet
Operating temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C
Operating humidity	10%~90% (non-condensing)	10%~90% (non-condensing)	10%~90% (non-condensing)
Power supply	AC:100V-240V, 50Hz±10% DC: -48V	AC:100V-240V, 50Hz±10% DC: -48V	AC:100V-240V, 50Hz±10% DC: -48V
Power consumption(W)	<350W	<550W	<1100W
Dimensions mm (WxDxH)	482×377×178 4U	482×370×397 9U	482×370×530 12U
Weight KG (empty)	10.5	21	25.5

Ordering Information

Item	Description
Starter Kits	
DGS-8603E-SK-CM24T8XS	Starter Kit: DGS-8603E + 8603E-CM24T8XS + 2 x 8600E-350AC
DGS-8603E-SK-CM24S8XS	Starter Kit: DGS-8603E + 8603E-CM24S8XS + 2 x 8600E-350AC
DGS-8603E-SK-CM24TS16XS	Starter Kit: DGS-8603E + 8603E-CM24T8XS + 8603E-CM24S8XS + 2 x 8600E-350AC
DGS-8606E-SK-24T24S	Starter Kit: DGS-8606E + 8606E-CM + 8600E-24T24S + 2 x 8600E-350AC
DGS-8606E-SK-24S8XS	Starter Kit: DGS-8606E + 8606E-CM + 8600E-24S8XS + 2 x 8600E-350AC
DGS-8606E-SK-24T8XS	Starter Kit: DGS-8606E + 8606E-CM + 8600E-24T8XS + 2 x 8600E-350AC
DGS-8606E-SK-48T16XS	Starter Kit: DGS-8606E + 8606E-CM + 8600E-48T + 8600E-16XS + 2 x 8600E-350AC

Item	Picture	Description
DGS-8603E Chassis		
DGS-8603E		Chassis of DGS-8603E with fan tray included, 3 power supply slots without power supply, 2 control module slots (with 1 combo CM/service slot) and 1 service slot
DGS-8603E Control Module		
8603E-CM24S8XS		Control module for DGS-8603E with 24 x GE SFP ports and 8 x 10G SFP+ ports
8603E-CM24T8XS		Control module for DGS-8603E with 24 x GE TX (RJ45) ports and 8 x 10G SFP+ ports
DGS-8606E Chassis		
DGS-8606E		Chassis of DGS-8606E with fan tray included, 3 power supply slots without power supply, 2 control module slots and 4 service slots
DGS-8606E Control Module		
8606E-CM		Control module for DGS-8606E
DGS-8603E/DGS-8606E Power Supplies		
8600E-350AC		350W AC power supply for DGS-8603E & DGS-8606E only
8600E-350DC		350W DC power supply for DGS-8603E & DGS-8606E only

Item	Picture	Description
------	---------	-------------

DGS-8610E Chassis

DGS-8610E



Chassis of DGS-8610E with fan tray included, 3 power supply slots without power supply, 2 control module slots and 8 service slots

DGS-8610E Control Module

8610E-CM



Control module for DGS-8610E

DGS-8610E Series Power Supplies

8600E-550AC



550W AC power supply for DGS-8610E

8600E-550DC



550W DC power supply for DGS-8610E

Item	Picture	Description
------	---------	-------------

Gigabit Service Line Cards

8600E-24T24S



24 10/100/1000Base-T Ports and 24 SFP ports line card module

8600E-48T



48 10/100/1000Base-T Ports line card module

8600E-48S



48 SFP Ports line card module

Gigabit and 10G Service Line Cards

8600E-24S8XS



24 SFP Ports and 8 x 10G SFP+ ports line card module

8600E-24T8XS



24 10/100/1000Base-T Ports and 8 x 10G SFP+ ports line card module

10G Service Line Card

8600E-16XS



16 Ports 10G SFP+ line card module

40G Service Line Card

8600E-4QXS



4 Ports 40G QSFP+ line card module