



DGS-6600 Chassis Based Switches



Product Highlights:

Designed for Enterprise LAN

- Deployable as an Enterprise Aggregation Switch
- Supports IPv6

Superior Performance

- Dual switch fabrics with up to 576 Gbps, 428.57 Mpps non-blocking packet forwarding
- Bottleneck-free distributed packet switching/routing
- Intelligent line cards with on-board L2/L3/L4 switching controllers

Flexible Modular Design

- 4-Slot chassis
- Scalable expansion to 192 10/100/1000BASE-T, 192 PoE, 192 SFP, or 24 10-Gigabit ports

High Resiliency

- 3+1 redundant backup power modules
- Hot-swappable line cards
- Replaceable fan module
- 802.1D/w/s spanning tree, 802.3ad link
- VRRP support

Quality of Service

- 802.1p priority queues/multi-layer CoS
- Committed information rate

Security

- L2/L3/L4 multi-layer access control
- External RADIUS authentication

The D-Link's DGS-6600 Series chassis-based switches are intelligent and high-performance multi-layer LAN devices designed for Enterprise local area networks (LAN). They are ideal for deployment in environments that require uninterrupted running of network applications and a high level of performance, security and control.

Featuring a flexible modular architecture and industry standard compliance, these switches provide scalable expansion and a high level of investment protection for businesses to deploy Gigabit and 10-Gigabit packet switching and routing for office networking and Ethernet-based Internet services to home offices.

The DGS-6600 Series is equipped with high-speed switch fabric, and advanced software functions, including complete IPv6 support. These switches provide the performance, high availability and futureproof architecture suitable for applications of not just today, but those of the future.

Flexible Modular Design

The DGS-6600 Series is now available in a 4-slot chassis model, the DGS-6604. One open slot is reserved for a control module, and the other three slots can be fitted with user-selectable port modules. In addition to these open slots, there are four slots for redundant backup power supplies, and one slot for a replaceable fan module. This modular architecture allows modules to be gradually added to meet network growth, and modules can be easily swapped anytime to fit network requirement changes.

Deployable as an Aggregation Switch

Using a common set of modules for 10/100/1000BASE-T ports, PoE support, SFP, and 10-Gigabit uplinks, IT personnel can fit

a DGS-6600 Series switch with different port types and deploy it as an aggregation (i.e. distribution) switch which can provide high port density connections to an Access Layer Switch in an office environment.

High Performance

The DGS-6604 4-slot switch provides a switch capacity of up to 576 Gbps and system performance of up to 428.57 Mpps. To make use of this high-performance hardware, these switches utilise a distribution switching method where each line card (the port module that directly connects to the network nodes) intelligently determines the switch path for each data packet. The switches synchronise the switching and routing information between the control cards and the line cards to map out the fastest data transfer path. With each line card capable of performing L2/3/4 on-board packet switching without relying on the control cards, the DGS-6600 Series switches can deliver very fast packet forwarding at almost zero-wait speed.

High Port Densities

Port densities can reach 144 Gigabit or 24 10-Gigabit ports per 4-slot chassis. All port modules are hot-swappable without the need to change any hardware or software settings. By providing up to 24 10GE ports with each port running at non-blocking rates, it can help enterprises migrate to a 10G backbone.

High Availability

The DGS-6604 provides 3+1 redundant backup power supplies (up to 3 active and 1 backup) and a hot swappable fan module to create a very highly available chassis-based device suitable for mission-critical network applications.



If the worst should happen to your network you need the very best support and fast. Downtime costs your business money. D-Link Assist maximises your uptime by solving technical problems quickly and effectively. Our highly-trained technicians are on standby around the clock, ensuring that award-winning support is only a phone call away.

With a choice of three affordable service offerings covering all D-Link business products, you can select the package that suits you best:

D-Link Assist Gold - for comprehensive 24-hour support

D-Link Assist Gold is perfect for mission-critical environments where maximum uptime is a high priority. It guarantees four hour around-the-clock response. Cover applies 24/7 for every day of the year including holidays.

D-Link Assist Silver - for prompt same-day assistance

D-Link Assist Silver is designed for 'high availability' businesses that require rapid response within regular working hours. It provides a four hour response service Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist Bronze - for guaranteed response on the next business day

D-Link Assist Bronze is a highly cost-effective support solution for less critical environments. Response is guaranteed within eight business hours Monday to Friday from 8am to 5pm, excluding holidays.

D-Link Assist can be purchased together with any D-Link business product. So whether you're buying switching, wireless, storage, security or IP Surveillance equipment from D-Link, your peace of mind is guaranteed. D-Link Assist also offers installation and configuration services to get your new hardware working quickly and correctly.

Chassis Based Switches

Application Convergence

The DGS-6600 Series combines high-speed hardware with software functions like prioritised traffic QoS and multicast routing to deliver the performance needed for real-time applications such as Internet telephony, streaming multimedia, and IPTV. In addition, these switches offer Power over Ethernet (PoE) solutions to provide both electrical power and network connectivity to PoE-capable devices, such as IP phones and wireless APs, and are ideal for large-scale enterprise edge deployment. An example of this application convergence would be VoIP for mobile users via wireless access points connected through the DGS-6600 Series switches.

Complete IPv6 Support

The DGS-6600 Series provides complete support for IPv6 to accommodate the potential huge increase in number of users and geographical needs of Internet expansion. It addresses the requirements of emerging applications such as Internet-enabled wireless devices, industrial appliances, Internet-connected transportation, integrated telephony services, sensor networks and distributed computing. The use of globally unique IPv6 addresses simplifies the mechanisms used for reach-ability and end-to-end security for network devices- functionality that is crucial to the applications and services that are driving the demand for IP addresses.

Enterprise-Wide Security

The DGS-6600 Series provides not only network access security but also protection against virus and worm attacks. Access security is provided through comprehensive policy-based ACL, port security, IP-MAC-

Port binding features, and Defeat IP Scan. Attacks hidden behind control protocols are thwarted, preventing the switch's CPU from being overwhelmed with unnecessary tasks which can cause degradation to a network's performance. The DGS-6600 Series extends security to network management via such functions as SSH v2 and SNMP v3 with authentication and encryption of management traffic.

Traffic Management for Triple Play

The DGS-6600 Series implements a rich set of multilayer QoS/CoS features including flow-based bandwidth control and broadcast/multicast storm control to ensure that critical network services like VoIP, video conferencing, IPTV, and IP surveillance are served with high priority. Bandwidth control guarantees bandwidth of these services when the network is busy. With L2 Multicast support, the DGS-6600 Series is capable of handling growing IPTV applications.

D-Link Green Technology

D-Link is striving to take the lead in developing innovative and power-saving technology that does not sacrifice operational performance or functionality. The DGS-6600 Series incorporates D-Link Green Technology, which includes a power saving mode, Smart Fan, and Time-based PoE. The power saving feature automatically powers down ports that have no link or link partner. The Smart Fan feature allows for the built-in fans to automatically turn on only at certain temperatures, providing continuous, reliable and eco-friendly operation of the switch. Time-based PoE is able to turn PoE on/off per port by a pre-defined time profile to reduce PoE power consumption.

Technical Specifications

Technical specifications		
Hardware	Chassis Slots	4
	Fixed Slots (for Control Modules)	1
	Open Slots (for Port Modules)	3
	Max. Switching Capacity	576 Gbps
	Max. Packet Forwarding Rate	428.57M pps
Maximum Port Density	10/100/1000BASE-T Ports	144
	10/100/1000BASE-T Ports with PoE	144
	SFP Slots	144
	10-Gigabit Ethernet XFP Slots	24

Module Support Matrix		10/100/1000 BASE-T	SFP	10/100/1000 BASE-T/SFP COMBO	10G XFP
CPU Engine	DGS-6600-CM	–	–	–	–
Lan Interface Modules	DGS-6600-48T	48	–	–	–
	DGS-6600-48S	–	48	–	–
	DGS-6600-48TS	24	24	–	–
	DGS-6600-8XG	–	–	–	8
	DGS-6600-48P	48	12	–	–
	DGS-6600-24SC2XG ¹	–	–	12	2
Power Suppliers	DGS-6600-PWR	–	–	–	–
Fan Module	DGS-6600-FAN	–	–	–	–

¹ Available in future.

Software Features

L2 Features

- MAC Address Table
 - 32K per I/O module
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frame up to 9,732 Bytes
- IGMP Snooping
 - IGMP v1/v2/v3 Snooping
 - Support 1K Groups
 - IGMP Proxy
- Spanning Tree
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
- 802.3ad Link Aggregation
 - Max. 128 Trunk Groups per device, 8 ports per group
 - Support cross- module trunk
- Port Mirroring
 - One-to-One
 - Many-to-One
 - Port mirroring for Tx/Rx/Both
 - RSPAN²
- ERPS (Ethernet Ring Protection Switching)
- MLD Snooping²
 - MLD v1 Snooping
 - Supports 1K groups
 - Host-based MLD Snooping Fast Leave
- Loopback Detection²
- L2 Protocol Tunneling²

VLAN

- VLAN Group
 - Max. 4K VLAN
- 802.1Q Tagged VLAN
- 802.1v Protocol VLAN
- Port-based VLAN
- Double VLAN (Q-in-Q)
 - Port-based Q-in-Q
 - Selective Q-in-Q²

L3 Features

- Max 4K IP interface
- VRRP
- IPv6 Tunneling
 - Manual
 - ISATAP
 - 6to4
- IPv6 Ready Phase 2
- Proxy ARP²
- Gratuitous ARP²

L3 Routing

- 12K hardware routing entries shared by IPv4/IPv6
- 8K hardware L3 forwarding entries shared by IPv4/IPv6
- 256 static routing entries
 - Support ECMP /WCMP²
- Policy-based Route²
- RIP
 - RIP v1/v2
 - RIPng (IPv6)
- OSPF
 - OSPF v2
 - OSPF v3 (IPv6)
 - OSPF Passive Interface
 - Stub/NSSA Area
 - OSPF Equal Cost Route
- BGP v4
- BGPv4+ (IPv6)²

L3 Multicasting

- 1K hardware multicast groups
- PIM-DM
- PIM-DM v6²
- PIM-SM
- PIM-SM v6²
- PIM Sparse-Dense Mode²
- IGMP v1/v2/v3
- DVMRP v3

QoS (Quality of Service)

- 802.1p Class of Service (CoS)
- 8 queues
- Queue Handling:
 - Strict
 - Weighted Round Robin (WRR)
 - Strict+WRR
 - Deficit Round Robin (DRR)
 - Strict+DRR
- CoS Based on:
 - Switch Port
 - VLAN ID
 - 802.1p Priority Queues
 - MAC Address
 - IPv4/IPv6 Address
 - DSCP
 - Protocol Type
 - IPv6 Traffic Class
 - IPv6 Flow Label
 - TCP/UDP Port
 - User-defined Packet Content²
- Supports following actions for flows:
 - Remark 802.1p Priority Tag
 - Remark TOS/DSCP Tag
 - Bandwidth Control
 - Committed Information Rate (CIR), min. granularity 64Kbps
- Bandwidth Control
 - Port-based (Ingress/Egress, min. granularity 64 Kbps)
- Time-based QoS

ACL (Access Control List)

- Ingress / Egress ACL
- ACL Based on
 - 802.1p Priority
 - VLAN ID
 - MAC Address
 - IPv4/IPv6 Address or IP Prefix
 - DSCP/IP Precedence
 - IP Protocol Type
 - TCP/UDP Port Number
 - Combination of the above
- Time-based ACL

² Function available in future firmware upgrade.

Software Features

Security

- SSH v2
- Port Security up to 16 MAC address per port
- Broadcast/Multicast/Unicast Storm Control
- DoS Attack Prevention
- IP-MAC-Port Binding²
- ARP Spoofing Prevention²
- D-Link Safeguard Engine²

AAA

- 802.1X
 - Port-based Access Control
 - MAC-based Access Control
 - Dynamic VLAN Assignment
- 3-Level user account
- RADIUS Authentication for Switch Access
- Guest VLAN²
- Web-based Access Control (WAC)²
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
- MAC-based Access Control (MAC)²
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment

Management

- Command Line Interface (CLI)
- Telnet Server
- Telnet Client
- TFTP
- DHCP Server
- DHCP Relay
- DHCP Relay option 82
- SNMP v1/v2c/v3
- SNMP Trap
- System Log
- RMON v1
 - Support 1,2,3,9 Groups
- Flash File System
- Multiple Images
- Multiple Configurations
- Debug command

- SNMP
- Trusted Host
- Microsoft® NLB Support²
- LLDP²
- sFlow²

Green

- Power Saving by Link status
- Time-based PoE

MIB/IETF Standard

- SNMP Management: RFC1215-MIB (Trap)
- SNMP Management: SNMPv2-MIB (RFC3418)
- SNMP V1V2: SNMP-Community-MIB (RFC3584)
- SNMP V3: SNMP-Framework-MIB (RFC3411)
- SNMP V3: SNMP-Mpd-MIB (RFC3412)
- SNMP V3: SNMP-Target-MIB (RFC3413)
- SNMP V3: SNMP-Notification-MIB (RFC3413)
- SNMP V3: SNMP-User-Based-Sm-MIB (RFC3414)
- SNMP V3: SNMP-View-Based-Acm-MIB (RFC3415)
- IEEE8021-PAE-MIB
- IP-MIB (RFC4293)
- Entity-MIB (RFC4133)(Version 3)
- BGP4(Ipv4)-MIB (RFC4273)
- DVMRP-STD-MIB
- IGMP: Mgmnd-Std-MIB (RFC5519)
- IF-MIB (RFC2863)
- Etherlike-MIB (RFC3635)
- Disman-Ping-MIB (RFC4560)
- Disman-Traceroute-MIB (RFC4560)
- IPMCAST-MIB(RFC5132)
- L2 Fdb(Unicast And Multicast): Q-Bridge-MIB (RFC4363)
- L2 Fdb: Bridge-MIB (RFC4188)
- LACP: LEEE8023-LAG-MIB
- OSPF(Ipv4): OSPF-MIB (RFC4750)
- PoE: Power-Ethernet-MIB (RFC3621)
- PIM: PIM-Std-MIB (RFC5060)
- PIM: PIM-MIB (RFC2934)
- PIM-SM BSR

- Protocol Independent: IP-Forward-MIB (RFC4292)
- QoS: P-Bridge-MIB (RFC4363)
- Rip(Ipv4): Ripv2-MIB (RFC1724)
- Mstp: leee8021-Mstp-MIB
- STP: Bridge-MIB (RFC4188)
- RSTP: RSTP-MIB (RFC4318)
- VLAN: P-Bridge-MIB (RFC4363)
- VLAN: Q-Bridge-MIB (RFC4363)
- Protocol-Based VLAN: Q-Bridge-MIB (RFC4363)
- VRRP: Vrrp-MIB
- RMON-MIB (RFC2819)
- RMON2-MIB (RFC4502)

D-Link Private MIB

- SMI-MIB
- TC-MIB
- ACL-MIB
- High-Availability-MIB
- Packet-Monitoring-MIB
- Port-Security-MIB
- Switchport-MIB
- Syslog-MIB

Optional Products

Starter Combination Kits

DGS-6604-SK

- 4-slot chassis
- 1x 850W Power Supply
- 1x Fan module
- 1x Control module

DGS-6604-SK-48T

- 4-slot chassis
- 1x 850W Power Supply
- 1x Fan module
- 1x Control module
- 1x 48-port Gigabit module

DGS-6604-SK-48P

- 4-slot chassis
- 1x 850W Power Supply
- 1x Fan module
- 1x Control module
- 1x 48-port Gigabit PoE module

Optional 10-Gigabit XFP Transceivers

DEM-421XT

XFP transceiver, 10GBASE-SR standard, multi-mode fibre, max. distance 300 m, 3.3/5 V

DEM-422XT

XFP transceiver, 10GBASE-LR standard, single-mode fibre, max. distance 10 km, 3.3/5 V

DEM-423XT

XFP transceiver, 10GBASE-ER standard, single-mode fibre, max. distance 40 km, 3.3/5 V

Line Cards and Modules

10 GbE Modules

DGS-6600-8XG 8 ports 10GE XFP module

Gigabit Modules

DGS-6600-48T 48 ports 10/100/ 1000Base-T module

DGS-6600-48S 48 ports SFP module

DGS-6600-48TS 24 ports 10/100/ 1000Base-T and 24 ports SFP module

PoE Modules

DGS-6600-48P 48 ports 10/100/1000 Base-T PoE module

CPU Modules

DGS-6600-CM Control module

Power Supply Modules

DGS-6600-PWR 850W Redundant AC power supply

Ventilation

DGS-6600-FAN Smart fan module (8 pcs)

Optional SFP Transceivers

DEM-310GT

SFP transceiver, 1000BASE-LX standard, single-mode fibre, max. distance 10 km, 3.3 V

DEM-311GT

SFP transceiver, 1000BASE-SX standard, multi-mode fibre, max. distance 550 m, 3.3 V

DEM-312GT2

2SFP transceiver 1000BASE-SX standard, multi-mode fibre, max. distance 2 km, 3.3 V

DEM-314GT

SFP transceiver, 1000BASE-LX standard, single-mode fibre, max. distance 50 km, 3.3 V

DEM-314GT

SFP transceiver, 1000BASE-LX standard, single-mode fibre, max. distance 50 km, 3.3 V

DEM-315GT

SFP transceiver, 1000BASE-LX standard, single-mode fibre, max. distance 80 km, 3.3 V

DEM-330T

WDM SFP transceiver, 1000BASE-LX standard, singlemode fibre, max. distance 10 km, 3.3 V, Tx wavelength 1550 nm, Rx wavelength 1310 nm

DEM-330R

SWDM SFP transceiver, 1000BASE-LX standard, singlemode fibre, max. distance 10 km, 3.3 V, Tx wavelength 1310 nm, Rx wavelength 1550 nm

DEM-331T

WDM SFP transceiver, 1000BASE-LX standard, singlemode fibre, max. distance 40 km, 3.3 V, Tx wavelength 1550 nm, Rx wavelength 1310 nm

DEM-331T

WDM SFP transceiver, 1000BASE-LX standard, singlemode fibre, max. distance 40 km, 3.3 V, Tx wavelength 1550 nm, Rx wavelength 1310 nm

DEM-211

SFP transceiver, 100BASE-FX multi-mode fibre, max. distance 2 km, 3.3 V

DEM-210

SFP transceiver, 100BASE-FX single-mode fibre, max. distance 15 km, 3.3 V



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