Designed for Enterprise LAN

- Deployable as an Enterprise Aggregation Switch
- Supports IPv6

Superior Performance

- Switch fabric 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 144 10/100/1000BASE-T, 144 PoE, 144 SFP, or 24 10-Gigabit ports

High Resiliency

- Up to 4 redundant load-sharing power modules
- Hot-swappable line cards
- Replaceable fan module
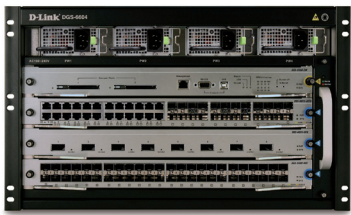- 802.1D/w/s spanning tree, 802.3ad link aggregation
- VRRP support

Quality of Service

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

Security

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

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Chassis Based Switches

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 homes.

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 future proof 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 workstations 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 utilize a distributed 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 synchronize 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 without using the back plane.

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 requiring changes to 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 up to 4 redundant load sharing power supplies and a hot swappable fan module to create a very highly available chassis based device suitable for mission-critical network applications.

Application Convergence

The DGS-6600 series combines high-speed hardware with software functions such as prioritized traffic QoS and multicast routing to deliver the performance needed for real-time applications such

Chassis Based Switches

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, home and industrial appliances, Internet-connected transportation, integrated telephony services, sensor networks, and distributed computing or gaming. The use of globally unique IPv6 addresses simplifies the mechanisms used for reachability and end-to-end security for network devices. This is crucial for 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, and IP-MAC-Port binding features. 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 such as 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 adjust their speed if a specified temperature is exceeded, 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.

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Technical Specifications

General

		DGS-6604
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[1]	144
	SFP Slots	144
	10-Gigabit Ethernet XFP Slots	24
Supported Modules	DGS-6600-48T, DGS-6600-48S, DGS-6600-DGS-6600-48TS, DGS-6600-48P[1], DGS-6600-24SC2XG[1], DGS-6600-8XG	
CPU Engine	DGS-6600-CM	
Power Supply	DGS-6600-PWR	
Fan Module	DGS-6600-FAN	

Supported LAN Modules

	10/100/1000 BASE-T	SFP	10/100/1000 BASE-T/SFP Combo	10G XFP
LAN Interface Modules				
DGS-6600-48T	48	-	-	-
DGS-6600-48S	-	48	-	-
DGS-6600-48TS	24	24	-	-
DGS-6600-8XG	-	-	-	8
DGS-6600-48P[1]	48	-	-	-
DGS-6600-24SC2XG[1]	-	12	12	2

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
 - Supports 2K Groups
 - IGMP Proxy
 - Port-based IGMP Snooping Fast Leave
• Spanning Tree
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
 - Root Restriction

• Link Aggregation
 - Compliant with 802.1AX and 802.3ad
 - Max. 128 groups per device
 - 8 ports per group
 - Supports cross-module trunk
• Port Mirroring
 - Supports 3 mirroring groups
 - One-to-One
 - Many-to-One
 - Port mirroring for Tx/Rx/Both
 - RSPAN[1]

• ERPS (Ethernet Ring Protection Switching)[1]
• MLD Snooping[1]
 - MLD v1/v2 Snooping
 - Supports 2K groups
 - Host-based MLD Snooping Fast Leave
• Loopback Detection[1]
• L2 Protocol Tunneling[1]

Software Features – *Continued*

VLAN	• VLAN Group
	  - Max. 4K VLAN
	• GVRP
	  - Max. 256 dynamic VLANs
		• 802.1Q Tagged VLAN
		• 802.1v Protocol VLAN
			• Port-based VLAN
			• MAC-based VLAN
			• Subnet-based VLAN
				• Double VLAN (Q-in-Q)
				  - Port-based Q-in-Q
				  - Selective Q-in-Q 2

L3 Features	• Max 4K IP interface
	• VRRP
		• IPv6 Tunneling
		  - Manual
		  - ISATAP
		  - 6to4
			• IPv6 Neighbor Discovery (ND)
			• IPv6 Ready Phase[1]
				• Proxy ARP[1]
				• Gratuitous ARP[1]

L3 Routing	• 12K hardware routing entries shared by IPv4/IPv6
	• 8K hardware L3 forwarding entries shared by IPv4/v6
	• 256 static routing entries for IPv4/IPv6
	  - Support ECMP /WCMP 2
		• Policy-based Routing[1]
		• RIP
		  - RIP v1/v2
		  - RIPng (IPv6)
			• OSPF
			  - OSPF v2
			  - OSPF v3 (IPv6)
			  - OSPF Passive Interface
			  - Stub/NSSA Area
			  - OSPF Equal Cost Route
				• BGP v4
				• BGP+ v4 (IPv6)[1]

L3 Multicasting	• 2K hardware multicast groups • PIM-DM	• PIM-DM v6[1] • PIM-SM	• PIM-SM v6[1] • PIM Sparse-Dense Mode[1]	• IGMP v1/v2/v3 • DVMRP v3

QoS (Quality of Service)	• 802.1p Class of Service (CoS)
	• 8 queues
	• Queue Handling:
	  - Strict Priority
	  - Weighted Round Robin (WRR)
	  - Strict+WRR
	  - Deficit Round Robin (DRR)
	  - WDRR
		• CoS Based on:
		  - Switch Port
		  - VLAN ID
		  - 802.1p Priority Queues
		  - MAC Address
		  - IPv4/v6 Address
		  - DSCP
		  - Protocol Type
		  - IPv6 Traffic Class
		  - IPv6 Flow Label
		  - TCP/UDP Port
		  - User-defined Packet Content[1]
			• 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
				• Three Color Marker
				  - trTCM

ACL (Access Control List)	• Ingress / Egress ACL	• ACL Based on
		  - 802.1p Priority
		  - VLAN ID
		  - MAC Address
		  - IPv4/v6 Address or IP Prefix
			- DSCP/IP Precedence
			  - IP Protocol Type
			  - TCP/UDP Port Number
			  - Combination of the above
				• Time-based ACL

Security	• SSH v2 • Port Security up to 16 MAC addresses per port		• Broadcast/Multicast/Unicast Storm Control • DoS Attack Prevention	

AAA	• 802.1X
	  - Port-based Access Control
	  - MAC-based Access Control
	  - Dynamic VLAN Assignment
		• RADIUS Authentication for Switch Access
		• Guest VLAN[1]
			• Web-based Access Control (WAC)[1]
			  - Port-based Access Control
			  - Host-based Access Control
			  - Dynamic VLAN Assignment
				• MAC-based Access Control (MAC)[1]
				  - Port-based Access Control
				  - Host-based Access Control
				  - Dynamic VLAN Assignment

Warranty Information

Warranty	• Limited Lifetime Warranty[2]

Ordering Information

Part Number	*Description*
DGS-6604	4-Slot Chassis base with Fan Module without power supply
DGS-6604-SK	Starter Kit: DGS-6604 + DGS-6600-CM + DGS-6600-PWR
DGS-6604-SK-48T	Starter Kit: DGS-6604 + DGS-6600-CM + DGS-6600-48T + DGS-6600-PWR
DGS-6604-SK-48P[1]	Starter Kit: DGS-6604 + DGS-6600-CM + DGS-6600-48P + DGS-6600-PWR
DGS-6600-48T	48-port 10/100/1000M module

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DGS-6600-48S	48-port SFP module
DGS-6600-48TS	24-port 10/100/1000M and 24-port
DGS-6600-8XG	8-port 10G XFP module
DGS-6600-24SC2XG[2]	12-port SFP and 12 combo ports (10/100/1000Base-T/SFP Module) and 2-ports 10G XFP Module
DGS-6600-CM	Control Module for DGS-6600 Series
DGS-6600-PWR	850 W AC Power Module for DGS-6600 Series
DGS-6600-FAN	FAN Module for DGS-6600 Series
DV-600S	D-View 6.0 Network Management Software Standard Edition
DV-600P	D-View 6.0 Network Management Software Professional Edition
DEM-421XT	XFP transceiver, 10GBASE-SR standard, multi-mode fiber, max. distance 300 m, 3.3/5 V
DEM-422XT	XFP transceiver, 10GBASE-LR standard, single-mode fiber, max. distance 10 km, 3.3/5 V
DEM-310GT	SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V
DEM-311GT	SFP transceiver, 1000BASE-SX standard, multi-mode fiber, max. distance 550 m, 3.3 V

[1] Features available in future products
[2] 1-Year Limited Warranty available only in the USA and Canada
Product specifications, size, and shape are subject to change without notice, and actual product appearance may differ from that depicted herein.

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