Flexible modular Architecture
Available in 10-Slots, 6-Slots and 3-Slots.
The open slots can be fitted with user-selectable Line cards modules

Super Reliability
Fault-tolerant topologies ensure rock-solid connectivity, and D-Link Green technology provides
eco-friendly power-saving

Versatile Management
Telnet/CLI/SNMP v1, v2c, v3 Management, RMON Monitoring. System/Alert Information, Interface Management and Port Mirroring/Traffic Redirection, QinQ VLAN

DES-8500E Series

Carrier-Level Core Routing Switches

Designed for Enterprise LAN and MAN
- Deployable as Enterprise Core Switch
- Enterprise-Class Software Functions
- Support IPv6, MPLS, 802.1X services
- Flexible Option for AC or DC Power Supply

Superior Performance
- Data switching capacity up to 1.92 Tbps
- Non-blocking wire speed Switching/Routing
- Intelligent Line Cards with On-Board L2/L3/L4 Switching Controllers

Flexible Modular Design
- 10-Slot, 6 Slot and 3 Slot Chassis
- Up to two Control Modules and dual AC/DC Power supply.

High Resiliency
- Reliability through Hitless Protection System(HPS)
- Dual Redundant Backup/Load- Sharing Control Modules
- Up to Two Redundant Power Supplies
- Hot-Swappable Control module and Line Cards

Robust Security
- Advanced L2/L3/L4 ACL
- IP-MAC-Port Binding
- Virus/Malicious Traffic Flooding Prevention

D-Link's DES-8500E series of chassis-based Switches are intelligent and high-performance multi-layer LAN devices designed for enterprise campus and metropolitan area networks (MAN). They are ideal for deployment in environments where minimal or zero downtime of network applications, superior performance, security and control are required.

The DES-8500E series switches feature minimum or zero network downtime, robust security and real-time running of bandwidth-intensive applications. Equipped with high-speed switching fabrics, redundant backup/load sharing capability 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 well into the future. The Green Technology in DES-8500E Series contributes to in-depth energy saving, environment protection and effective decrease in Operations Administration and Maintenance (OAM).

DES-8500E Series offers have three models: DES-8503E, DES-8506E and DES-8510E supports end-to-end connectivity and granular application control to meet different scales in a network.

Enterprise Core or Distribution Switch
IT personnel can fit a DES-8500E switch with different port types and deploy it either as an Enterprise/ISP core switch or Telecom aggregation (i.e. distribution) switch. DES-8500E deployed as enterprise core switch provides numerous high-speed fiber backbones for a campus and central office network, while DES-8500E deployed as aggregation switch can provide high port density connections.

Application Convergence
The DES-8500E combines high-speed hardware with software functions like prioritized traffic QoS and multicast routing to deliver the performance suitable for real-time applications such as VOIP, IPTV/multi-terminal HD video monitoring and HD video conferencing.

High Performance

The DES-8510E 10-slot switch provides switching capacity up to 1.92Tbps and a system performance of up to 3840Mpps. The DES-8506E 6-slot switch provides switching capacity up to 960Gbps and system performance of up to 1920Mpps. The DES-8503E 3-slot switch provides switching capacity up to 480Gbps and system performance of up to 960Mpps. To make use of this high-performance hardware, these switches utilize a distributed switching method which has each line card (the port module that directly connects to the network nodes) intelligently determine the switch path for each data packet.

Enterprise-Wide Security

The DES-8500E 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 to prevent the switch's CPU from being overwhelmed with unnecessary tasks which can cause degradation to a network's performance. The DES-8500E Series extends security to network management via such functions as SSH v2 and SNMP v3 with authentication and encryption of management traffic.

MPLS Functions

DES-8500E supports many advanced Multi-Protocol Label Switching (MPLS) functions, including MPLS label management, LDP, MPLS L2/L3 VPN, enabling enterprises and service providers to build next-generation intelligent networks that deliver a wide variety of advanced, value-added services over a single infrastructure. This solution can be integrated seamlessly over any existing infrastructure, such as IP, Frame Relay, ATM, or Ethernet. Subscribers with differing access links can be aggregated on an MPLS edge without changing their current environments, as MPLS is independent of access technologies.

Virtual Switch System (VSS)

DES-8500E switches support Virtual Switch System, a technology that can virtualize multiple physical devices into a logical device, to obtain much better performance, reliability, flexibility and management than independent physical devices. The virtualization can make full use of every link between physical devices, avoid STP from blocking links and protect the existing link investment to perfection. The advanced distributive processing technology and the efficient link aggregation beyond physical equipment realize the separation of logical control plane, service control plane and service data plane, provide continuous L3 routing forwarding to stop a single-point trouble from causing service interruption.

The VSS line card of DES-8500E can extend the distance of VSS to 80KM, flexible and convenient which breaks distance limits of traditional cluster. The whole virtualization system realizes the uniform management of single IP, simplifies the management of network devices and network topology, improves the network operation efficiency and reduces the operation and maintenance cost.

Complete IPv6 Support

The DES-8500E Series provides complete support for IPv6 to accommodate the potential huge increase in number of users and geographical needs of the expanding Internet. 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, distributed computing, and gaming. The use of globally unique IPv6 addresses simplifies the mechanisms used for reachability and end-to-end security for network devices that are crucial to the applications and services that are driving the demand for IP addresses.

Innovative Green Design

The adoption of Green Technology idea limits the maximum power consumption of whole machine to 1000W, which is energy-saving and environmental friendly. Smart power supply management has the unique power supply monitoring mechanism - slow startup, intelligent adjustment and in-depth energy saving. The Intelligent fan management system supports automatic speed regulation, independent partition control, reducing the rotation speed, lowering noise and extending the fan life span effectively. The support of energy-efficient Ethernet and the compliance of IEEE802.3az cuts down energy consumption efficiently.

Technical Specification

Chassis	DES-8503E	DES-8506E	DES-8510E
Switching capacity	480Gbps	960Gbps	1.92Tbps
Packet forwarding rate	960Mpps	1920Mpps	3840Mpps
Number of Slots	3	6	10
Service Slots	2	4	8
MSU Slots	1	2	2
MAC	Static Configuration and dynamic MAC learning MAC browsing and removal Configurable aging time of the MAC address Limited number of learnable MAC addresses MAC filtration Black-hole MAC list		
VLAN	4K VLAN List GVRP 1:1 VLAN mapping and N:1 VLAN mapping Basic QinQ, flexible QinQ PVLAN		
STP	802.1D (STP), 802.1W (RSTP) and 802.1S (MSTP) BPDU protection, root protection, and loopback protection		
Multicast	IGMP v1/v2/v3 IGMP Snooping IGMP Fast Leave Multicast flow copying over VLANs PIM-SM, PIM-DM		
IPv4	Static route, RIPv1/v2, OSPF, and BGP Policy Based Routing (PBR) Load balance via equivalent route Graceful Restart for OSPF and BGP BFD for OSPF and BGP		
IPv6	ICMPv6, DHCPv6, ACLv6, and IPv6 Telnet IPv6 neighbor discovery Path MTU discovery MLD and MLD snooping IPv6 static route, RIPng, OSPFv3 and BGP4+ Manual/ISATAP/6to4 tunnels		
MPLS VPN	LDP MCE P/PE function requirements of MPLS VPN MPLS TE MPLS OAM		

QoS	Flow classification based on each field in the header of L2/L3/L4 protocols CAR flow limit 802.1P/DSCP priority re-labeling SP, WRR, and “SP+WRR” Congestion avoidance mechanisms like Tail-Drop and WRED Flow monitoring and flow shaping		
Security features	L2/L3/L4 ACL flow identification and filtring DDoS attack prevention, TCP’s SYN Flood attack prevention, UDP Flood attack prevention, etc Broadcast/multicast/unknown unicast storm control Port Isolation Port security, and “IP+MAC+port” binding DHCP snooping and DHCP option 82 IEEE 802.1x authentication Radius, Tacacs+ authentication uRPF Level-based command line protection		
Reliability	Two-MSU redundancy (excluding DES-8503) “1+1” backup of power source Hot-swappable MSUs and service cards, and automatic service recovery Static/LACP link aggregation, and link aggregation across cards Ring network protection such as ERPS VRRP Ethernet OAM 802.3ah/802.1ag/ITU-Y.1731 GR for OSPF and BGP BFD for OSPF and BGP ISSU uninterrupted system upgrade		
Management and maintenance	Console, Telnet, SSH SNMP v1/v2/v3 TFTP RMON SFLOW/Netflow flow statistics and analysis		
Value-added services	VSS		
Green and energy saving	IEEE 802.3az energy-efficient Ethernet		
Environment requirements	Operating temperature and humidity: 0℃-40℃, 10%-90% non-condensing Storage temperature and humidity: -20℃-70℃, 5%-95% non-condensing		
Power Supply	AC：100V-240V，50Hz±10% DC：-48V		
Dimension mm (W*H*D)	482×548×266 6U	482×548×399 9U	482×548×533 12U
Entire weight (null configuration)	21.5kg	26kg	30.5kg

Ordering Information

Part Number	*Description*
Chassis DES-8500E Series	
DES-8503E	Chassis of DES-8503E (including 1 fan tray, 2 power supply slots, 1 MSU slot and 2 service slots)
DES-8506E	Chassis of DES-8506E (including 1 fan tray, 2 power supply slots, 2 MSU slots and 4 service slots)
DES-8510E	Chassis of DES-8510E (including 1 fan tray, 2 power supply slots, 2 MSU slots and 8 service slots)
Power supply of DES-8500	
DES-85-PWR-AC-600	600W AC power supply module of DES-8500 series (only available for DES-8503 and DES-8506)
DES-85-PWR-AC-1000	1000W AC power supply module of DES-8500 series
MSU of S8500	
DES-85-MSU-II	MSU II of DES-8500 series
DES-85-MSU-III	MSU III of DES-8500 series
DES-85-MSU-VI	MSU VI of DES-8500 series
Line Cards of DES-8500 series	
GE Line Cards	
DES-85-12GE-TX/SFP	Combo line card with 12 GE ports (RJ45, SFP)
DES-85-12GE-TX/SFP-MPLS--E	Combo line card with 12 GE ports (RJ45, SFP)
DES-85-24GE-TX	Service line card with 24 GE TX ports (RJ45) with 4 bi-use GE optical ports (SFP)
DES-85-24GE-SFP	Service line card with 24 GE optical ports (SFP) with 4 bi-use GE electrical ports (RJ45)
DES-85-48GE-TX-MPLS	Service line card with 48 GE electrical ports (RJ45)
DES-85-48GE-SFP-MPLS	Service line card with 48 GE optical ports (SFP)
TE Line Cards	
DES-85-2TE-SFP+	Service line card with 2 TE optical ports (SFP+)
DES-85-4TE-SFP+-MPLS	Service line card with 4 TE optical ports (SFP+)
DES-85-12TE-SFP+-MPLS	Service line card with 12 TE optical ports (SFP+)
VSS Line Cards	
DES-85-VSS-4TE-SFP+	VSS line card with 4 TE optical ports (SFP+)
Optical modules	
GE optical modules	
DGS-712	SFP transceiver, 1000BASE-T
DEM-311GT	SFP transceiver, 1000BASE-SX standard, multi-mode fiber, max. distance 550m, 3.3 V operating voltage

DEM-310GT	SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage
DEM-314GT	SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 50km, 3.3 V operating voltage
DEM-315GT	SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 80km, 3.3 V operating voltage
DEM-330T	WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-330R	WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 10 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength 1550 nm
DEM-331T	WDM SFP transceiver, 1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1550 nm, Rx wavelength 1310 nm
DEM-331R	WDM SFP transceiver 1000BASE-LX standard, single-mode fiber, max. distance 40 km, 3.3 V operating voltage, Tx wavelength 1310 nm, Rx wavelength1550 nm
DEM-431XT	10Gbase-SR SFP+ Transceivers (without DDM),33m: OM1 MMF, 82m:OM2 MMF, 300m: OM3 MMF
DEM-432XT	10Gbase-LR SFP+ Transceivers (without DDM), 10Km

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