BUSINESS AND ENTERPRISE SOLUTIONS

DES-6300

7-Slot Multi-Layer Routing Chassis Switch

The D-Link DES-6300 is a Gigabit chassis switch that offers true scalability and flexibility. It features packet switching, wire-speed routing, multiple link aggregation and Quality of Service (QoS). The DES-6300 fits in a variety of networking environments and is ideal for any company migrating to Gigabit Ethernet because it supports 10/100/1000 Mbps along with copper and fiber connectivity.

Wire-speed IP Packet Routing
Using standards-based routing, the DES-6300 provides instant support for Windows, NetWare, Unix, AppleTalk and Internet environments. Built-in wire-speed non-blocking switch fabric provides hardware-based packet filtering/forwarding. Packet routing is performed by on-board ASICs, which is many times faster than traditional CPU-based routers.

Seamless Integration
The DES-6300 can be instantly integrated into any existing network for seamless integration of multi-layer packet switching. With multi-layer support for every port, you can flexibly segment the network into domains and sub-domains, using (1) sub-net, user and server IDs to route traffic, and (2) custom filters based on users' physical MAC addresses to filter extraneous traffic.

Up to 96 Fast Ethernet or 12 Gigabit Ports
The user can configure DES-6300 with up to 96 10/100Mbps Fast Ethernet ports, 72 100Mbps fiber ports, 12 Gigabit ports, or a combination of these. Copper and fiber Gigabit ports (SX, LX, and GBIC included) are provided. This flexible configuration allows the user to install Fast Ethernet for workstation connections, copper Gigabit for departmental server connections, and fiber Gigabit for backbone/campus attachments.

Quality of Service (QoS)
With Quality of Service based on multi-layer information, workstations and server can be attached to the DES-6300 so time-sensitive applications like video-conference and IP telephony traffic can be prioritized and queued.

FEATURES

High Performance Switching
-31.98Gbps Switching Capacity
-7 Slot Modular Chassis
-GBIC Support
-96 Fast Ethernet Ports

Standards-Based Network Management:
-Telnet
-Console
-SNMP
-RMON
-Web
-Port Mirroring

Investment Protection:
-Support for Industry-Standards

Advanced Standards-Based Enterprise Features:
-802.1p QoS
-802.1q VLANs
-IGMP Multicast
-Multi-Port Trunking

D-Link
Building Networks for People

DES-6300

General Specifications

Topology
Star

Protocol
CSMA/CD

Data Transfer Rates
Ethernet:
10Mbps (half duplex)
20Mbps (full duplex
Fast Ethernet:
100Mbps (half duplex)
200Mbps (full duplex)
Gigabit Ethernet:
2000Mbps (full duplex)

Hardware Specifications

Chassis
Number of slot: 7
Number of user-configurable slots: 6
2 redundant power supply bays
Backplane switch fabric bandwidth: 32Gbps

DES-6302 Management Module
Flash memory firmware (upgradable)
CPU
DB-9 RS-232 console port
LED report: CPU status, power
Power alarm ON/OFF

DES-6303 10/100Mbps Copper Port Module
IEEE 802.3 10BASE-T/802.3u 100BASE-TX standards
16 auto-sensing 10/100Mbps ports
Full/half duplex support with ANSI/IEEE 802.3 Nway auto-negotiation
IEEE 802.3x Flow Control in full-duplex, back pressure in half-duplex
MDI-II/MDI-X auto-sensing for all twisted-pair ports
Auto-correction of twisted-pair Rx reverse polarity
10BASE-T cables:
UTP Cat. 4, 5 (100 m max)
EIA/TIA-568 150-ohm screened twisted-pair (STP)(100 m max.)
100BASE-TX cables:
UTP Cat. 5 (100 m max.)
EIA/TIA-568B 150-ohm screened twisted-pair (STP) (100 m max.)
LED report (per port):
10/100Mbps speed
Link/Act

DES-6304 Fast Ethernet Fiber Port Module
IEEE 802.3u 100BASE-FX standard
12 100Mbps fiber ports (MT-RJ connectors)
Full duplex support
IEEE 802.3x Flow Control
Cable:
50, 62.5/125 micron multi-mode fiber (2 km max.)
LED report (per port)
Link/Act

DES-6305 Fast Ethernet Fiber Port Module
IEEE 802.3u 100BASE-FX standard
8 100Mbps fiber ports (SC connectors)
Full duplex support
IEEE 802.3x Flow Control
Cable:
50, 62.5/125 micron multi-mode fiber (2 km max.)
LED report (per port)
Link/Act

DES-6306 Gigabit Fiber Port Module
IEEE 802.3u 1000BASE-SX standard
2 Gigabit fiber ports (SC connectors)
Full duplex support
IEEE 802.3x Flow Control
Cable:
50/125 micron multi-mode fiber (525 m max.),
62.5/125 micron multi-mode fiber (275 m max.)
LED report (per port):
Link/Act

DES-6307 Gigabit Fiber Port Module
IEEE 802.3z 1000BASE-LX standard
2 Gigabit fiber ports (SC connectors)
Full duplex support
IEEE 802.3x Flow Control
Cable:
Single-mode fiber (30 km max.),
LED report (per port):
Link/Act

DES-6308 Gigabit Copper Port Module
IEEE 802.3 10BASE-T/802.3u 100BASE-TX/IEEE 802.3ab 1000BASE-T standards
2 auto-sensing 10/100/1000Mbps ports
Full/half duplex support with ANSI/IEEE 802.3 Nway auto-negotiation
IEEE 802.3x Flow Control in full-duplex, back pressure in half-duplex
10BASE-T/100BASE-TX (full/half duplex)
1000BASE-T (full duplex)
MDI-II/MDI-X auto-sensing for all twisted-pair ports

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Auto-correction of twisted-pair Rx reverse polarity
10BASE-T cables:
UTP Cat. 4, 5 (100 m max)
EIA/TIA-568 150-ohm screened twisted-pair (STP) (100 m max.)
100BASE-TX/1000BASE-T cables:
UTP Cat. 5/Cat. 5e (100 m max.)
EIA/TIA-568B 150-ohm screened twisted-pair (STP) (100 m max.)
LED report (per port):
100/1000Mbps speed
Link/Act

DES-6309 GBIC Module
IEEE 802.3z standard
2 GBIC ports for installation of 1000BASE-SX and 1000BASE-LX PHY module
Full duplex support
IEEE 802.3x Flow Control
Cable:
Single-mode fiber (30 km max.),
LED report (per port):
Link/Act

Redundant Power Supplies (DES-6310)
Universal internal dual power supplies (1 provided, 1 optional)
Current sharing design
Redundant backup for continuous operation
Hot-swappable capability allows change of the power supply without turning OFF power
Power management function enabled (power alarm ON/OFF)
Revolving handles for easy removal
Ventilation:
60 x 60 mm DC fans x 2 (per power supply)

Physical & Environmental
Power Input
90 - 264 VAC, 47 – 63 Hz (per power supply)
Power Output
3.3V; 80A max (per power supply)
12V; 2A max (per power supply)

Ventilation
80 x 80 mm DC fans x 4 (built into chassis)

Chassis Dimensions
440 (W) x 294 (D) x 356 (H) mm (excluding rubber feet) (17.32 x 11.57 x 14.01 inches)
Standard 19-inch rack-mount width, 8 U height

Chassis Weight
16.5 kg (36.47 lb.) (includes DES-6301, DES-6302 and 1 DES-6310)

Operating Temperature
0° – 50°C (32° –122°F)

Storage Temperature
-25° – 55°C (-13° –131°F)

Humidity
5% - 95% non-condensing

EMI Certification
FCC Class A
VCCI Class A
CE Class A
C-Tick Class A

Safety Certification
UL/CUL
TUV

Software Specifications

VLAN (Layer 2)
IEEE 802.1Q VLAN Tagging
Port-based VLANs: 4K per port VLAN
GARP/GVRP

Spanning Tree (Layer 2)
Standards:
IEEE 802.1D Bridging STP (Spanning Tree Protocol)
IEEE 802.1w Rapid Spanning Tree – Spanning Tree per VLAN
Root Avoidance (ability to block the switch from becoming STP Root)
802.1w Rapid Spanning Tree (edge port support)
802.1s Multiple Spanning Tree Groups (proprietary)

IP Routing (Layer 3)
IP forwarding enable/disable
IP Proxy ARP
IP Fragmentation support
IP v4 support
IP multi-netting
Path MTU discovery
VRRP support
Routing protocols:
RIP-1
RIP-2
OSPF v.2

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IPX Routing (Layer 3)
Routing protocol: IPX-RIP

Apple Talk Routing (Layer 3)
Bridge support only

Quality of Service (QoS)
Classification & Prioritization)
Layer 2:
Priority bits (IEEE 802.1p standard)
Layer 3:
IP TOS and DSCP bits
IP destination & source addresses
Layer 4:
TCP/UDP port number
Socket number

QoS (others)
Number of priorities queues: 4 per portl
Rate limit; physical port starting at 512Kbps
Bandwidth control
Broadcast storm control

Multicast
GMRP
IGMP v2
IGMP Snooping
PIM Dense mode
PIM Sparse mode
DVMRP

Access Control
IEEE 802.1x Port-based Network Access Control

Security (Layer 2 Filters)
MAC based: user-specified MAC addresses
VLAN based: ingress checking enable/disable
Port based: MAC address learning per port enable/disable

Security (Layer 3 Access Control List)
IP address based

Link Aggregation (Port Trunking)
Standard: 802.3ad
Ether Channel interoperable
802.3ad compatible link aggregation
Number of port trunks: 16 per device
Number of ports per Ethernet/Fast Ethernet trunk: 8 ports
Number of ports per Gigabit trunk: 2 ports

Queuing Mechanism
WRR or Weighted RED
Strict Priority Queuing

Bandwidth Reservation
Resource Reservation Protocol (RSVP)

Configuration & Management Specifications

Configuration
RS-232 port out-of-band configuration
Web-based
Telnet server
TFTP client
Bootp client
DHCP client
DHCP/Bootp relay agent

Management
Password enabled
IP filitering on management interface
NMS
SNMP v1
SNMP v.2c
TFTP firmware upgradeable
SLIP/PPP for remote management
CLI (Command Line Interface)

Management Agent
Supported protocols:
IP
UDP
ARP
ICMP

MIB
SNMP (RFC 1157)
SNMP v.2 (RFC 1907)
MIB II (RFC 1213)
Bridge (RFC 1493)
RMON (RFC1757, 1271)
Ethernet (RFC 1643)
IP Forwarding Table (RFC 2096)
RIP-1 (RFC 1058)
RIP-2 (RFC 1723)
OSPF (RFC 2178)
CIDR (RFC 2096)
802.1p (RFC 2674)
Private MIB (proprietary)

RMON
4 Groups: Statistics, History, Alarms, Events

Port Configuration & Monitoring
Auto-negotiation
Port Mirroring

Redundant Power Management
Power alarm