

xStack Integration

- Virtual Stacking of up to 32 units
- Embedded D-Link SIM for integration of all the xStack switches
- 1 Physical Stacking of up to 8 units

VLAN

- 4K VLAN support
- Selective Q-in-Q and VLAN Translation
- MAC-based VLAN
- 802.1v protocol-based VLAN

Security

- L2/L3/L4 Multi-Layer Access Control
- External RADIUS/TACACS+ Authentication
- SSH/SSL
- Guest VLAN
- Web-based Access Control (WAC)
- MAC-based Access Control (MAC)
- IP-MAC-Port Binding (IMPB)
- D-Link Safeguard Engine
- Supports Microsoft NAP

VoIP Deployment

- Auto Voice VLAN
- Highest priority
- DSCP QoS for VoIP application

Quality of Service

- 802.1p Priority Queues/Multi-Layer CoS
- IP Multicast support for bandwidth-intensive application

Traffic Monitoring & Bandwidth Control

- Port Mirroring
- Traffic Segmentation
- Bandwidth Control down to 64bps
- Broadcast Storm Control
- Committed Information Rate
- RMON v1/v2 support

Management

- Web-based GUI
- Command Line Interface (CLI)
- Telnet Server
- SNMP v1, v2c, v3
- D-Link Single IP Management (SIM)
- D-View 6.0 Network Management System

L2+ Ethernet Stack

The DES-3528/3552 xStack series are enhanced L2+ access stackable switches designed to connect end-users in a secure SMB (small and medium size business) or enterprise network. These switches provide physical stacking, multicast and enhanced security, making it an ideal access layer solution. The DES-3528/3552 xStack Series can seamlessly integrate with L3 core switches to form a multi-level network structure consisting of a high-speed backbone and centralized servers.

Flexible & Cost-Effective Ethernet Stack

The DES-3528/3552 series provide the option of 24 or 48 10/100Mbps Ethernet ports and up to four Gigabit uplinks per switch. Users requiring connections to devices such as IP phones, network cameras and wireless APs can deploy the DES-3528P, which provides 24 10/100Mbps PoE ports. Eight of these PoE ports provide up to 30watts per port, while the remaining adhere to the 802.3af standard (15.4watt output per port), giving administrators the ability to connect to the 802.3af standard devices as well as the 802.3at pre-standard equipment such as the 802.11n AP. The two combo 10/100/1000BASE-T SFP slots on the front panel provide flexible copper or fiber Gigabit connection. The two 10/100/1000BASE-T ports on the back panel are designed for flexible dual usage. They can be used either as stacking ports with 4Gbps bidirectional stacking bandwidth, or can simply be used as copper Gigabit uplinks. Physical stacking capability allows administrators to add up to eight switch units per stack on a scalable expansion basis. This series offers an attractive stackable switch alternative to the expensive chassis-based solution.

Comprehensive Security

The DES-3528/3552 series provide users with the latest security features such as 802.1X Guest VLAN, MAC-based Access Control (MAC) and Web-based Access Control (WAC). 802.1X Guest VLAN is a comprehensive end-point security solution for user authentication/authorization and WAC guarantees granular network access control with a user-friendly authentication mechanism. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and also define the port number to enhance user access control. With the DHCP Snooping feature, the switch automatically learns IP/MAC pairs by snooping DHCP packets and saving them to the IMPB white list. This keeps the network secure and auditable. The D-Link Safeguard Engine identifies and prioritizes "CPU interested" packets to prevent malicious traffic from interrupting normal network flows and protects switch operation.

Enhanced Network Performance & Availability

The DES-3528/3552 series targets SMB/enterprise customers who require a high level of network security and maximum uptime. It offers 4K VLAN, advanced selective Q-in-Q, as well as delivering progressive QoS capability for mission-critical applications and multicast services. The switches offer superior performance and availability through the latest Spanning Tree protocol, optional redundant power, and Loopback Detection (D-Link's advanced technology for preventing loops without the presence of STP).

User-friendly & Ecosystem-friendly

The DES-3528/3552 series uses D-Link's Web GUI 2.0, an easy-to-use web interface, and configuration wizards to minimize administrators' learning curve and make deployments easier to plan and implement. Utilizing the latest generation of chipsets, the DES-3528/3552 series optimizes power consumption to reduce energy costs and contribute to a greener environment. In addition, the fanless design of the DES-3528 and DES-3528DC ensures quiet operation, ideal for deployment in open spaces. The DES-3528P and DES-3552 are equipped with a Smart Fan feature. This feature allows for the built-in fans to automatically turn on at a certain temperature, providing continuous, reliable and eco-friendly operation of the switches.



Technical Specifications

DES-3528

DES-3528DC

DES-3528P

DES-3552



Physical & Hardware		DES-3528	DES-3528DC	DES-3528P	DES-3552
Physical & Hardware	Size	19-inch Standard Rack-Mount Width, 1U Height	19-inch Standard Rack-Mount Width, 1U Height	19-inch Standard Rack-Mount Width, 1U Height	19-inch Standard Rack-Mount Width, 1U Height
	Interface	24 10/100BASE-TX 2 10/100/1000BASE-T 2 Combo 10/100/1000BASE/SFP	24 10/100BASE-TX 2 10/100/1000BASE-T 2 Combo 10/100/1000BASE/SFP	24 10/100BASE-TX 2 10/100/1000BASE-T 2 Combo 10/100/1000BASE/SFP	48 10/100BASE-TX 2 10/100/1000BASE-T 2 Combo 10/100/1000BASE/SFP
	Console Port	RS-232 Console Port			
	PoE Support*	-	-	Per 10/100BASE-TX Port	-
	Auto-Negotiation of Network Speeds (RJ-45 Ports)	√	√	√	√
	Auto-MDI/MDIX (RJ-45 Ports)	√	√	√	√
	Gigabit & 100BASE-FX Fiber Support On SFP	√	√	√	√
Performance	Switching Capacity	12.8 Gbps	12.8 Gbps	12.8 Gbp	17.6 Gbps
	64-Byte Packet Forwarding Rate	9.5 Mpps	9.5 Mpps	9.5 Mpps	13.1 Mpps
	MAC Address Table Size	16K	16K	16K	16K
Diagnostic LEDs	Power (Per Device)	√	√	√	√
	Console (Per Device)	√	√	√	√
	Link/Activity (Per Port)	√	√	√	√
	Speed Indicator (Per Port)	√	√	√	√
	RPS (Per Device)	√	-	√	√
MTBF (Hours)	203,785 hours	419,736 hours	345,226 hours	380,412 hours	
Heat Dissipation	69.9 BTU per hour	62.68 BTU per hour	1723 BTU per hour	112.87 BTU per hour	
Power Input	100 to 240VAC, 0.5A (max.), 50 to 60Hz	48VDC, 0.6A (max.)	100 to 240VAC, 6.3A (max.), 50 to 60Hz	100 to 240VAC, 0.8A (max.), 50 to 60Hz	
Power Consumption	20.5watts (max.)	18.38watts (max.)	505.1watts (max.)	33.1watts (max.)	
Optional Redundant Power Supply	√	-	√	√	
Dimensions	441 (W) x 210 (D) x 44(H) mm		441 (W) x 310 (D) x 44(H) mm		
Weight	2.51 kg (5.53 lbs)	2.52 kg (5.55 lbs)	5.42 kg (11.94 lbs)	4.09 kg (9.01 lbs)	
Ventilation DC Fan	Fanless	Fanless	4 DC Fans	2 DC Fans	
Operating Temperature	0° to 45° C				
Storage Temperature	-40° to 70° C				
Operating Humidity	5% to 95% non-condensing				
EMI	FCC Class A, CE Class A, C-Tick, VCCI				

*Ports 1 to 8 support 802.3af and pre-standard 802.3at, and ports 9 to 24 support 802.3af only



L2+ Ethernet Stack

Safety	CB, UL / cUL			
Acoustics	0dB	0dB	48.2dB at max speed of fan	35.1dB at max speed of fan
3rd Party Certification	MEF 9,14	-	-	-

Software Features

Stackability

- Physical Stacking
 - Up to 4G Stacking Bandwidth
 - Up to 8 units per Stack
- Virtual Stacking
 - Supports D-Link Single IP Management (SIM)
 - Up to 32 devices per Virtual Stack

L2 Features

- MAC Address Table: 16K
- Flow Control:
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frames support up to 9,216 bytes
- Spanning Tree Protocol:
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
 - BPDU Filtering
- Loopback Detection (LBD)
- 802.3ad Link Aggregation:
 - Max. 8 groups per device, 8 ports per group
- Port Mirroring:
 - One-to-one
 - Many-to-one
 - Flow-based Mirroring
 - RSPAN

L2 Multicasting

- IGMP Snooping:
 - IGMP v1/v2/v3 Snooping
 - Supports 256 groups
 - Host-based IGMP Snooping Fast Leave
 - Report Suppression
- Limited IP Multicasting (IGMP Filtering):
 - Up to 24 IGMP Filtering Profiles, 128 ranges per profile
- MLD Snooping:

- MLD v1/v2 Snooping
- Supports 256 groups
- MLD Snooping Fast Leave

L3 Features

- ARP Proxy
- Policy-based Routing

VLAN

- VLAN Group:
 - Max. 4K VLAN
- GVRP:
 - Max. 256 Dynamic VLAN
- 802.1Q Tagged VLAN
- Port-based VLAN
- 802.1v Protocol VLAN
- Double VLAN (Q-in-Q):
 - Port-based Q-in-Q
 - Selective Q-in-Q
- VLAN Translation
- MAC-based VLAN
- ISM VLAN
- Asymmetric VLAN
- VLAN Trunking
- Voice VLAN
- Subnet-based VLAN

Quality of Service (QoS)

- 802.1p Quality of Service
- 8 queues per port
- Queue Handling:
 - Strict Priority
 - Weighted Round Robin (WRR)
 - Strict + WRR
- 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
- Actions for flows:
 - Remark 802.1p Priority Tag
 - Remark TOS/DSCP Tag
 - Bandwidth Control
 - Flow Statistics
 - Committed Information Rate (CIR), min. granularity 64Kbps
- SRED Congestion Control
- Bandwidth Control:
 - Port-based (Ingress/Egress, min. granularity 64Kbps)
 - Flow-based (Ingress, min. granularity 64Kbps)
 - Per egress queue bandwidth control
 - Per egress queue bandwidth guarantee
- Time-based QoS

Access Control List (ACL)

- Up to 1792 Access Rules
- ACL based on:
 - 802.1p Priority
 - VLAN ID
 - MAC Address
 - Ether Type
 - IPv4/v6 Address
 - DSCP
 - Protocol Type
 - TCP/UDP Port Number
 - IPv6 Traffic Class
 - IPv6 Flow Label
 - User Defined packet content
- ACL Statistics
- Time-based ACL
- VLAN-based ACL
- CPU Interface Filtering

Security

- SSH v2
- SSL v1/v2/v3

- Port Security:
 - Up to 64 MAC addresses per port
- Broadcast/Multicast/Unicast Storm Control
- Traffic Segmentation
- IP-MAC-Port Binding (IMPB):
 - ARP Packet Inspection
 - IP Packet Inspection
 - DHCP Snooping
 - Supports 500 Address Binding Entries per device
- D-Link Safeguard Engine
- NetBIOS/NetBEUI Filtering
- DHCP Server Screening
- DHCP Client Filtering
- ARP Spoofing Prevention
- BPDU Attack Protection

AAA

- 802.1X:
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
 - Authentication Database Failover
- Web-based Access Control (WAC):
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
 - Authentication Database Failover
- MAC-based Access Control (MAC):
 - Port-based Access Control
 - Host-based Access Control
 - Dynamic VLAN Assignment
 - Authentication Database Failover
- Japanese Web-based Access Control (JWAC)
- Multiple Authentication
- Guest VLAN
- Supports Microsoft® NAP
 - 802.1X NAP
 - DHCP NAP
- RADIUS Accounting
- RADIUS and TACACS+ Authentication

- for Switch Access
- Three Level User Accounts

Management

- Web-based GUI
- Command Line Interface (CLI)
- Telnet Server
- Telnet Client
- TFTP Client
- ZModem
- SNMP v1/v2c/v3
- SNMP Traps
- System Log
- RMON v1:
 - Supports 1, 2, 3, 9 groups
- RMON v2
 - Supports ProbeConfig group
- sFlow
- LLDP
- BootP/DHCP Client
- DHCP Auto-Configuration
- DHCP Relay
- DHCP Relay Option 60, 61, 82
- PPPoE Circuit-ID Tag Insertion
- DHCP Server
- Dual Image

- Dual Configuration
- CPU Monitoring
- NTP/SNTP
- Password Recovery
- Password Encryption
- DNS Relay

OAM

- Cable Diagnostics
- 802.3ah Ethernet Link OAM
- 802.1ag Connectivity Fault Management (CFM)
- Loopback Diagnostics

D-Link Green

- Compliant with RoHS 6
- Time-based PoE

MIB

- RFC1213 MIB-II
- RFC1493 Bridge MIB
- RFC1907 SNMPv2 MIB
- RFC1757, 2819 RMON MIB
- RFC2021 RMONv2 MIB
- RFC1643, 2358, 2665 Ether-like MIB
- RFC2674 802.1p MIB
- RFC2233, 2863 IF MIB
- RFC2618 RADIUS Authentication Client MIB

- RFC2620 RADIUS Accounting Client MIB
- RFC2925 Ping & TRACEROUTE MIB
- D-Link Private MIB

IETF® Standard

- RFC768 UDP
- RFC783 TFTP
- RFC791 IP
- RFC792 ICMP
- RFC793 TCP
- RFC826 ARP
- RFC854 Telnet
- RFC951, 1542 BootP
- RFC2068 HTTP
- RFC2138 RADIUS
- RFC2139, 2866 RADIUS Accounting
- RFC2474 DiffServ
- RFC2597 DSCP AF
- RFC2598 DSCP EF
- RFC1492 TACACS
- RFC1157 SNMPv1
- RFC1901, 1908 SNMPv2c
- RFC2570, 2575 SNMPv3
- RFC3164, 3195 Syslog
- RFC3046 DHCP Relay Option

Optional Products

Optional SFP Transceivers

DEM-310GT	1000BASE-LX, Single-mode, 10km
DEM-311GT	1000BASE-SX, Multi-mode, 550m
DEM-312GT2	1000BASE-SX, Multi-mode, 2km
DEM-314GT	1000BASE-LHX, Single-mode, 50km
DEM-315GT	1000BASE-ZX, Single-mode, 80km
DEM-210	100BASE-FX, Single-mode, 15km
DEM-211	100BASE-FX, Multi-mode, 2km

Optional WDM SFP Transceivers

DEM-330T	1000BASE-LX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 10km
DEM-330R	1000BASE-LX, Wavelength Tx:1310nm Rx:1550nm, Single-mode, 10km
DEM-331T	1000BASE-LX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 40km
DEM-331R	1000BASE-LX, Wavelength Tx:1310nm Rx:1550nm, Single-mode, 40km

Optional Redundant Power Supply

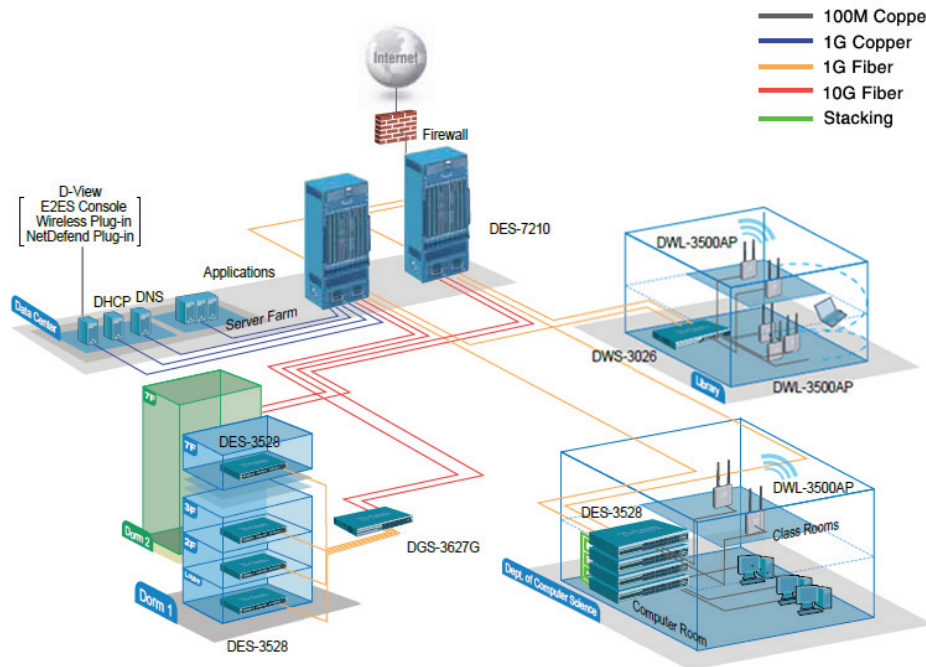
DPS-200	60-watt redundant power supply
DPS-600	500-watt redundant power supply (for DES-3528P only)
DPS-800	2-slot redundant power supply chassis
DPS-900	8-slot redundant power supply chassis

Optional Management Software*

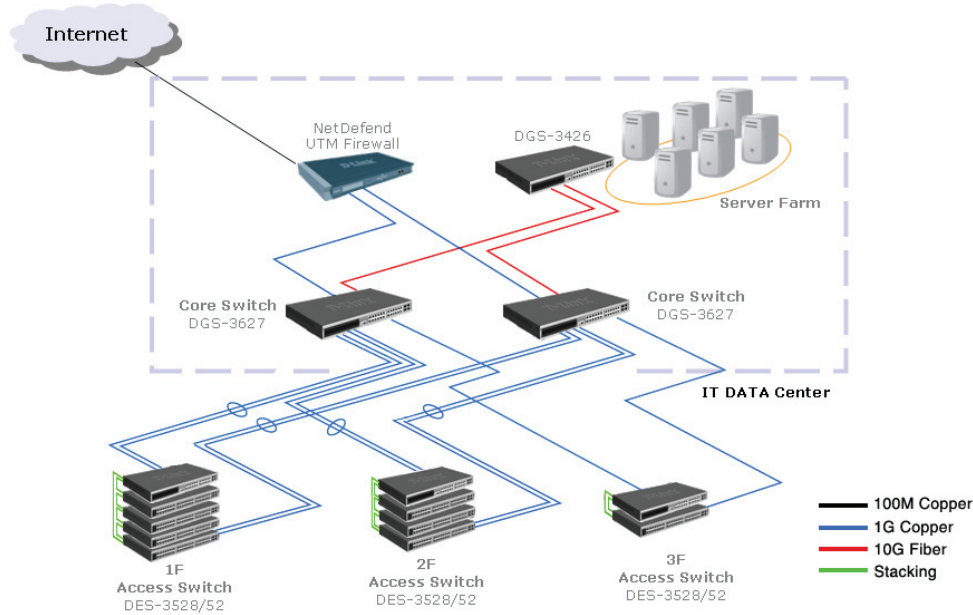
DV-600S	D-View 6.0 Network Management System (Standard Edition)
DV-600P	D-View 6.0 Network Management System (Professional Edition)

*Also supports D-View 5.1

Deploying the DES-3528/3552 in a Campus Network



Deploying the DES-3528/3552 in an Enterprise Network



D-Link Corporation
 No. 289 Xinhua 3rd Road, Neihu, Taipei 114, Taiwan
 Specifications are subject to change without notice.
 D-Link is a registered trademark of D-Link Corporation and its overseas subsidiaries.
 All other trademarks belong to their respective owners.
 ©2009 D-Link Corporation. All rights reserved.
 Release 07 (September 2009)