

L3 Gigabit Stack

Core Switch With 10Gigabit Uplinks

- 120Gbps Star Stacking Bandwidth
- Optional 10Gigabit Uplinks/Redundant Power Supply
- Scalable to 384 Gigabit Ports Per Stack *
- L2/L3/L4 Multi-Layer QoS/Access Security
- Easy Expansion Beyond Physical Stack With Single IP Management

FEATURES

L3 Core Gigabit Stack

- High-Bandwidth 120Gbps Star Stacking
- Up to 48 Gigabit Ports Per Switch
- 7 Units, 312 Gigabit Ports Per Stack (Star Topology) *
- 12 Units, 384 Gigabit Ports Per Stack (Ring Topology) **
- Copper/Fiber Gigabit (SFP) Support

Performance/Resilience

- 10Gigabit Uplinks for Ultra High-Speed Backbone ***
- Redundant Power Supply Support
- Alleviates Traffic Burden on Backbone/Servers
- Complete L2/L3 Features

Security

- L2/L3/L4 Multi-Layer Access Control
- External RADIUS/TACACS+ Authentication Support
- SSH/SSL Support

Quality of Service

- 802.1p Priority Queues/Multi-Layer CoS
- IP Multicast Support for Bandwidth-Intensive Applications

Traffic Monitoring/Bandwidth Control

- Traffic Segmentation
- Bandwidth Control
- Broadcast Storm Control
- 802.3ad Link Aggregation (Port Trunks)
- GUI Traffic Monitoring
- RMON Support
- Port Mirroring

Configuration/Management

- Web-Based
- Command Line Interface (CLI)
- SNMP v.1, v.2c, v3 Standard
- D-Link Single IP Management (SIM)
- D-View SNMP Network Management Module Provided
- Telnet Server

* Calculation based on 6 units of DXS-3350SR stacked with a DGS-3324SRI Stacking Master.

** Calculation based on 8 units of DXS-3350SR ring-stacked together.

*** 10Gigabit supported on switch models DXS-3326GRS and DXS-3350SR only.

The D-Link xStack Layer 3 Gigabit switches are stackable switches that combine performance with physical star stacking fault tolerance, robust security, quality of service (QoS), versatile management functions with scalable flexibility. All these features typically found in the more expensive chassis-based solutions, at the price of a stackable. A stack can provide up to 312 Gigabit ports * in the star architecture, and 336 Gigabit ports ** for the ring topology. 10Gigabit uplinks are available as optional modules, each with 2 XFP slots for transceivers capable of transmission at 20,000Mbps in the full duplex mode.

High-Speed Stacking. Each switch is equipped with 2 stacking ports providing 20Gbps full duplex bandwidth. Up to 6 units can be stacked with a Stacking Master, itself equipped with 6 stacking ports providing 120Gbps aggregated stacking bandwidth. Star stacking provides fault tolerance, as units can be added or removed without interrupting the service of the entire stack. The switches are stacked together through high-speed stack cables, allowing the entire stack to operate as a single high-performance entity. Alternatively, for installation sites with fewer switches to stack, shared 40Gbps ring stacking topology can be employed, so you don't have to add a Stacking Master.

Easy Expansion Beyond Physical Stack. With D-Link Single IP Management support, you can easily add up to 32 switch units per stack (not limited to any specific models) outside of your physical stack. Multiple switches can be configured, monitored and maintained from any workstation running a web browser through one single IP address. The stack is managed as a single object, and all stacked units are identified by a single IP address. A simple yet powerful web-based interface allows you to perform most management and configuration tasks, eliminating the need for you to install expensive, complex SNMP network management software.

Comprehensive Security. A complete set of security features is provided for connectivity and access control. This set includes Access Control Lists (ACLs) based on MAC address, switch port, IP address, and/or TCP/UDP port numbers, 802.1x user authentication and MAC address control. The xStack also provides central management for administration access via TACACS/TACACS+ and RADIUS. Together with network application control, this security ensures that not only proper user access is served, but malicious traffic is also prevented from being spread across the network. VLAN support includes GARP/GVRP and 802.1Q to enhance network security and performance. Bandwidth control allows you to set traffic limit for each port to control the traffic volume from the edge of the network. The switch implements a robust set of multi-layer (L2, L3, L4) QoS/CoS features to ensure that critical network services like VoIP, ERP, Intranet and video conference are served with proper priority. Up to 8 priority queues for 802.1p/TOS/DiffServ are supported, with classification and marking based on MAC SA/DA, IP SA/DA, and/or TCP/UDP port numbers. Virtual Router Redundancy Protocol (VRRP) allows several L3 switches on a multi-access link to utilize the same virtual IP address. One switch will be elected as a master with the other switches acting as backups in case of the failure of the master router. This VRRP support provides convenience, permitting your host system to be configured manually or via DHCP with a single default gateway.



Product Specifications

DGS-3324SRI

DGS-3324SR

DXS-3326GSR

DXS-3350SR



Interface	DGS-3324SRI	DGS-3324SR	DXS-3326GSR	DXS-3350SR
10/100/1000BASE-T Ports	24	24	4**	48
Auto-Negotiation of Network Speed	√	√	√	√
Auto-MDI/MDIX	√	√	√	√
802.3x Flow Control	√	√	√	√
SFP	8 *	4 *	24	4*
Open Slot for 10Gigabit Uplink Module	-	-	√	√
CompactFlash Slot	√	-	-	-
RS-232 Console Port	1	1	1	1
Physical Stacking				
SIO Stacking Ports	6	2	2	2
Stacking Port Speed	20Gbps (Full-Duplex)	20Gbps (Full-Duplex)	20Gbps (Full-Duplex)	20Gbps (Full-Duplex)
No. of Units Per Stack (Star Topology) ***	7	7	7	7
No. of Units Per Stack (Ring Topology) ****	12	12	12	8
10Gigabit Uplink Module				
XFP Slots	-	-	2	2
10GBASE-SR (300 m Multi-Mode Fiber) Support	-	-	√	√
10GBASE-LR (10 km Single-Mode Fiber) Support	-	-	√	√
Performance				
Switch Fabric	186Gbps	88Gbps	128Gbps	176Gbps
Packet Forwarding Rate	125Mpps	65.5Mpps	95Mpps	131Mpps
Packet Buffer Size	2MB	2MB	2MB	4MB
IP Address Table	3K	3K	3K	3K
MAC Address Table	16K	16K	16K	16K
Max. Jumbo Frame Size	9KBytes	9KBytes	9KBytes	9KBytes
Power				
Power Supply	100 to 120VAC, 200 to 240VAC, 50/60Hz, Internal Power Supply			
Power Consumption (Max.)	90 Watts	90 Watts	140 Watts	143 Watts
Optional Redundant Power Supply	√	√	√	√
Diagnostic LED				
Power, Stacking Master Console, RPS (Per Device)	√	√	√	√
SIO (Per SIO Stacking Port)	√	√	√	√
1000Mbps (Per 10/100/1000BASE-T Port)	√	√	-	-
Link/Activity (Per Port)	√	√	√	√
Stack ID No.	-	√	√	√
Physical/Environmental				
BTU/Hr.	307.1	307.1	477.7	487.9
Dimensions	441 x 207 x 44 mm	441 x 207 x 44 mm	441 x 430 x 44 mm	441 x 430 x 44 mm
Size	19-Inch Rack-Mount Width, 1U Height			
Weight (Without Optional Module)	3.15 kg	3.15 kg	6.5 kg	6.41 kg
Operating Temperature	0° to 40°C	0° to 40°C	0° to 40°C	0° to 40°C
Storage Temperature	-25° to 55°C	-25° to 55°C	-25° to 55°C	-25° to 55°C
Humidity	5% to 95% Non-Condensing	5% to 95% Non-Condensing	5% to 95% Non-Condensing	5% to 95% Non-Condensing
EMI	FCC Class A, CE, C-Tick	FCC Class A, CE, C-Tick	FCC Class A, CE, C-Tick	FCC Class A, CE, C-Tick
Safety	CSA International	CSA International	CSA International	CSA International
MTBF	171,528 Hours	156,302 Hours	143,111 Hours	93,994 Hours

* Combo with 10/100/1000BASE-T ports.
 ** Combo with SFP slots.
 *** Including DGS-3324SRI Stacking Master. Star stacking requires a DGS-3324SRI Stacking Master.
 **** In the ring stacking scheme, maximum 12 units per stack if only DGS-3324SR, DES-3352SR and DXS-3326GSR (any combination) are used. If DXS-3350SR is included in the stack, maximum number of units per stack will be less than 12.



Software Functions

IP Routing

- IP v.4 support
- IP Fragmentation support
- Multiple IP interfaces per VLAN
- Routing protocols supported:
 - Static routing
 - RIP v.1, RIP v.2
 - OSPF v.2

VLAN

- Port-based VLAN
- IEEE 802.1Q Tagged VLAN
- GARP/GVRP
- Maximum number of VLANs
- Dynamic: 255
- Static: 4K

Priority Queues (CoS)

- Standard: IEEE 802.1p
- Maximum number of queues: 8

Traffic Classification (CoS)

Can be based on user-definable application types:

- MAC address
- TOS
- Diffserv (DSCP)
- IP address
- Packet protocol type
- TCP/UDP port number (user-definable application types)
- TCP/UDP payload (user-definable packet content)
- IP v.6 address
- IP v.6 traffic class
- IP v.6 flow label

Access Security

- 802.1x port-based access control
- 802.1x MAC-based access control
- Port security
- SSH
- SSL

Access Control List

Multi-layer ACL based on:

- MAC address
- TOS
- Diffserv (DSCP)
- IP address
- Packet protocol type
- TCP/UDP port number (user-definable application types)
- TCP/UDP payload (user-definable packet content)
- Per port ACL definition
- IP v.6 address
- IP v.6 traffic class
- IP v.6 flow label
- CPU interface filtering

Spanning Tree Protocol

- 802.1D Spanning Tree compatible
- 802.1w Rapid Spanning Tree
- 802.1s Multiple Spanning Tree

IP Multicast

- IGMP v.2
- DVMRP
- PIM Dense mode
- PIM Sparse mode*
- RRRP

Port Trunk

- Maximum number of ports per trunk: 8
- Maximum number of trunks per stack: 32
- Operation mode support: load sharing
- 802.3ad compatible Link Aggregation (LACP)

Transmission Method

Store-and-Forward

Jumbo Frame

9KB (max.)

Configuration & Management Management Support

- D-Link SIM (Single IP Management)
 - SNMP v.1, v.2c, v.3
- Web-based management
- Web GUI traffic monitoring
- Web-based MAC address browsing
- CLI (command line interface)
- RMON monitoring
- Telnet server (up to 8 sessions)
- TACACS/TACACS+ authentication on switch admin access
- RADIUS authentication on switch admin access
- SYSLOG
- DHCP/Bootp relay
- DNS relay
- Dual Images
- Port description
- CPU utilization monitoring

MIBs

- MIB-II (RFC 1213)
- Bridge MIB (RFC 1493)
- RMON MIB (RFC 1757)
- 802.1p Priority Queues (RFC 2674)
- 802.1Q VLAN MIB (RFC 2674)
- IGMP MIB (RFC 2933)
- If MIB (RFC 2233)
- Ethernet-like MIB (RFC 1643)
- RIP MIB (RFC 1724)
- OSPF MIB (RFC 1850)
- CIDR MIB (RFC 2096)
- D-Link enterprise MIB

RMON Groups

1, 2, 3, 9 (Alarm, Statistics, History, Event)

IP Number Self-identification

Through DHCP client, Bootp client

Firmware Upgrade

TFTP

Optional Products

Optional Management Software

DS-510S D-View 5.1 SNMP Network Management Program (standard version)

DS-510P D-View 5.1 SNMP Network Management Program (professional version)

Optional 10Gigabit Uplink Modules

DEM-420X 2-slot 10Gigabit XFP uplink module

DEM-420CX 2-port 10Gigabit CX4 uplink module

Optional 10Gigabit XFP Transceivers

DEM-421XT XFP transceiver for 10GBASE-SR, multi-mode fiber, max. distance 300 m, 3.3/5V

DEM-422XT XFP transceiver for 10GBASE-LR, single-mode fiber, max. distance 10 km, 3.3/5V

DEM-423XT XFP transceiver for 10GBASE-ER, single-mode fiber, max. distance 40 km, 3.3/5V

Optional SFP Transceivers

DEM-310GT SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 10 km, 3.3V

DEM-311GT SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 550 m, 3.3V

DEM-312GT2 SFP transceiver for 1000BASE-SX, multi-mode fiber, max. distance 2 km, 3.3V

DEM-314GT SFP transceiver for 1000BASE-LHX, single-mode fiber, max. distance 50 km, 3.3V

DEM-315GT SFP transceiver for 1000BASE-LX, single-mode fiber, max. distance 80 km, 3.3V

Optional Redundant Power Supply

DPS-500 140-watt redundant power supply

DPS-800 2-slot redundant power supply chassis

DPS-900 8-slot redundant power supply chassis

* Function available infuture firmware upgrade

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FAX: 47-22-309580

Finland

TEL: 358-9-2707 5080

FAX: 358-9-2707-5081

Spain

TEL: 34-93-4090770

FAX: 34-93-4910795

Portugal

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Singapore

TEL: 65-6774-6233

FAX: 65-6774-6322

Australia

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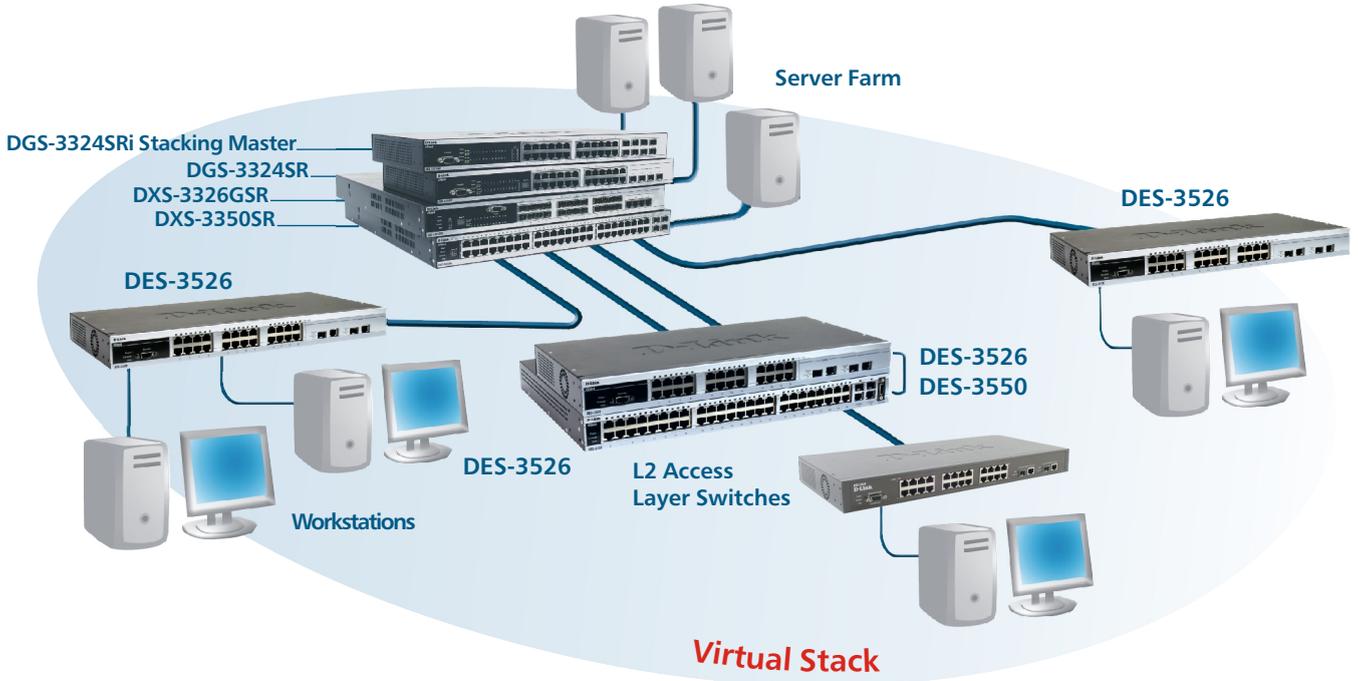
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Stacking With Single IP Management



xStack™ - Ring (Bus) Architecture



xStack™ - Star Architecture