

Flexible High Port Densities

- 8, 20 or 44 10/100/1000BASE-T Ports
- 4 or 8 Combo SFP for Fiber Gigabit and 100BASE-FX Links
- 802.3af and 802.3at Power Over Ethernet Support¹
- PoE power budget can expand to 740W with DPS-700 RPS¹

High Bandwidth Physical/Virtual Stacking

- 2 CX4 Ports Per Switch
- Up to 40Gbps Full-Duplex Stacking Bandwidth
- Up to 6 Units (288 Gigabit Ports) Per Stack
- Linear or Fault Tolerant Ring Stacking Topology
- Virtual Stacking of up to 32 units
- Embedded D-Link SIM for integration of all the xStack switches

L2 Features

- Jumbo Frames up to 13K bytes
- MLD v1/v2 Snooping
- ERPS (Ethernet Ring Protection Switching)³
- Loopback Detection

L3 Features

- Static Route²
- Max 16 IP Interfaces²
- IPv6 Neighbor Discovery (ND)²

VLAN

- 4K VLAN
- 802.1v protocol-based VLAN
- Voice VLAN
- Port-based/MAC-based VLAN
- ISM VLAN
- Private VLAN
- VLAN Trunking

Security

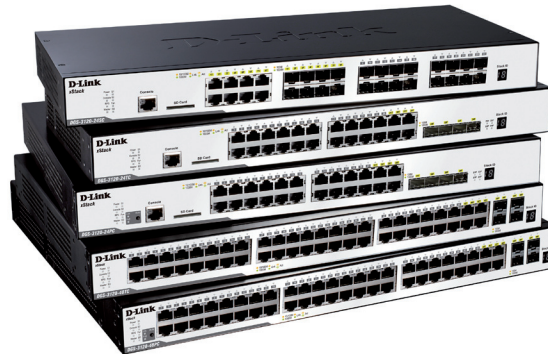
- L2/L3/L4 Multi-Layer Access Control
- External RADIUS/TACACS+ Authentication
- SSH/SSL
- Web-based Access Control (WAC)
- MAC-based Access Control (MAC)
- IP-MAC-Port Binding (IMPB)²
- D-Link Safeguard Engine
- Supports Microsoft NAP (IPv4/v6)
- Compound Authentication²
- ARP Spoofing Prevention
- BPDU Attack Protection

¹For DGS-3120-24PC/48PC models only

²Supported in EI (Enhanced Image) version only

³Supported from firmware R2.0 EI and above

xStack L2 Managed Stackable Gigabit Switches



The DGS-3120 xStack Series are enhanced L2 access stackable switches designed to connect end-users in a secure SMB or enterprise network. These switches support physical stacking, multicast and enhanced security, making it an ideal access layer solution. The DGS-3120 Series provides 8/24/48 10/100/1000Mbps Gigabit ports, 4/8 combo SFP and embedded with two CX4 interfaces for high speed switch stacking. Each 10/100/1000 Mbps port of DGS-3120-24PC/48PC supports 802.3af and 802.3at Power over Ethernet standard to connect with PoE devices such as high speed 802.11n Access Points, IP phones and cameras. The DGS-3120-24SC provides 16 dedicated SFP ports with 8 combo Gigabit Ethernet copper/SFP ports and 2 CX4 ports for high-speed switch stacking. This device has high port density of SFP interfaces, which is ideal for WAN aggregation. The dedicated CX4 stacking ports provide up to 40G bi-directional bandwidth which makes the DGS-3120 Series suitable as a backbone solution for SMBs. The integrated and comprehensive D-Link End-to-End Security solution (E2ES) on DGS-3120 Series extends the network security coverage from core to the edge. D-Link Safeguard Engine protects DGS-3120 Series from the threat of worms/virus increasing the overall reliability, serviceability and availability. Furthermore, D-Link Green Technology decreases energy costs by reducing power consumption, without compromising on performance. The DGS-3120 Series supports Smart Fan feature which has heat sensors and a fan that maintains the temperature of the device for optimum performance. To minimize noise reduction, the default fan speed is set to low. These switches are ideal for deployment in offices or environments that require silence.

End-to-End Security (E2ES)

D-Link extends intelligence by combining Endpoint, Joint and Gateway Security to provide a complete End-to-End Security Solution. This integrated security solution combines switches, firewalls and Wireless LAN with unified threat management for easy security management for the edge, to the core

enterprise network. The DGS-3120 Switch Series provides a rich list of Endpoint Security features to add confidence and assurance to your network. It offers comprehensive protection, including user authentication, VLAN authorization, traffic control and segmentation, node address control, and attack mitigation.

The switches also support 802.1X Port-based/Host-based Access Control, Guest VLAN, and RADIUS and TACACS+ for strict access control over the network along with Web-based Access Control (WAC) and MAC-based Access Control (MAC) for easy deployment. User-defined Access Control List (ACL) secures your internal IT network against viruses and enhances switch performance. The IP-MAC-Port Binding feature allows administrators to bind a source IP address with an associated MAC and also lets the administrator define the port number to enhance user access control. The switches also support DHCP Server Screening, a feature that denies access to rogue DHCP servers. Enable this function to filter out all the DHCP Server packets from a specific port. Other security features like port security and traffic segmentation provide granular control to businesses and enhance network security. D-Link's Joint Security solution provides admission control and real-time defense through Microsoft's NAP (Network Access Protection) and D-Link's ZoneDefense respectively. The ZoneDefense technology allows customers to integrate their switches with D-Link's NetDefend firewall, for full coverage and proactive security architecture. NAP is a policy enforcement technology built into Windows 7®, Vista and XP SP3 that allows customers to protect network assets from unhealthy computers by enforcing compliance with network health policies.

IPv6 Technology

The DGS-3120 Series supports both IPv4 and IPv6 protocols to meet the ever-increasing demand of larger address space. IPv6 simplifies, streamlines network configuration and also reduces costs of deployment. These switches have been certified

Quality of Service

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

Traffic Monitoring & Bandwidth Control

- Port Mirroring
- Traffic Segmentation
- Bandwidth Control down to 64Kbps
- Granular Broadcast Storm Control down to 2 pps
- Broadcast Storm Control
- RMON v1/v2 support

Configuration/Management

- Web-based GUI (supports IPv4/v6)
- Command Line Interface (CLI)
- Telnet (supports IPv4/v6)
- SNMP v1/v2c/v3
- sFlow²
- RADIUS/TACACS+ Authentication for Management Access
- Multiple Images/Configurations
- SD Card Reader

Operations Administration Maintenance (OAM)

- 802.3ah Ethernet Link OAM^{2,3}
- 802.3ah D-Link Extension: D-Link Unidirectional Link Detection (DULD)^{2,3}

xStack L2 Managed Stackable Gigabit Switches

with IPv6 Ready Logo Phase 2 from the IPv6 forum, a worldwide IPv6 advocacy consortium. The IPv6 Ready Logo Program provides conformance and interoperability of IPv6 products. MLD snooping enhances efficiency in selective distribution by forwarding multicast data to ports that receive data, rather than flooding all ports in a VLAN. Features such as QoS, ACL (based on IPv6 flow label and traffic class), provide a faster and more efficient service. For IPv6 Management, the switches support Web, telnet and SNMP over IPv6.

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-3120 Series implements the D-Link Green Technology, which includes a power saving mode, smart fan, reduced heat dissipation, and cable length detection. 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 turn on at a certain temperature, providing continuous, reliable and eco-friendly operation of the switch.

Resilience/Performance Enhancement

The DGS-3120 Series offers superior performance and enhanced network resilience, through the latest 802.1D-2004 RSTP and 802.1Q-2005 MSTP Spanning Tree Protocols. STP allows you to configure the switch with a redundant backup bridge path, so transmission and reception of packets can be guaranteed in event of any fail-over switch on the network. 802.3ad Link Aggregation provides aggregated bandwidth between switches or servers to increase redundancy for higher availability. The switches support 802.1p for Quality of Service (QoS). This standard is a mechanism that classifies real-time traffic into 8 priority levels mapped to 8 queues. Packet classification is based on TOS, DSCP, MAC,

IPv4, VLAN ID, TCP/UDP port number, protocol type and user defined packet content, which enables flexible configuration especially for real-time streaming multimedia applications such as Voice over IP (VoIP). The switches also provide a Safeguard Engine for network protection to increase reliability, serviceability and availability. The switches support 802.1p for Quality of Service (QoS).

Traffic Control

Network administrators can define throughput levels for each port to allocate its essential bandwidth. Broadcast storm control and flow-based bandwidth control can reduce the level of damage from virus attacks or P2P applications to the network.

Manageability

D-Link's Single IP Management (SIM) simplifies and speeds up management tasks, allowing multiple switches to be configured, monitored and maintained from any workstation running a web browser through one unique IP address. This virtual stack is managed as a single object, having all units maintained by one IP address. The DGS-3120 Series also supports standard-based management protocols such as SNMP, RMON, Telnet, Console, Web-based GUI and SSH/SSL security authentication.

The switches are also equipped with an SD Card reader, allowing the user to boot images and upload configuration files directly from an SD Card. Furthermore, syslog files can also be conveniently saved to a card.



²Supported in EI (Enhanced Image) version only

³Supported from firmware R2.0 EI and above

Technical Specifications		DGS-3120-24TC	DGS-3120-48TC	DGS-3120-24PC
General	Interface	20 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP	44 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP	44 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP
	Optional Redundant Power Supply	DPS-200	DPS-500/DPS-500DC	DPS-700
	Console Port	RJ-45		
Performance	Switching Capacity	88 Gbps	136 Gbps	88 Gbps
	64-Byte Packet Forwarding Rate	65.48 Mpps	101.19 Mpps	65.48 Mpps
	MAC Address Table Size	16 K Entries		
	Packet Buffer Memory	2 MB		
	Flash Memory	32 MB		
Stacking	CX4 Stacking Port	√		
	Max. Number of Units Per Stack	6		
	Bandwidth Topology	Linear/Ring		
PoE	PoE Standard	-	-	802.3af and 802.3at
	PoE Capable Ports	-	-	up to 15.4W per port (802.3af) up to 30W per port (802.3at)
	PoE Power Budget	-	-	370 watts 740 watts (with DPS-700 RPS)
	Auto Power/Device Discovery	-	-	√
	Over-Current Protection	-	-	√
MTBF (Hours)	-	-	-	
Acoustics	49.8 db	-	-	
Heat Dissipation	134.695 BTU/h	-	-	
Power Input	100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply			
Max Power Consumption	39.5 watts	-	-	
Dimensions (W x D x H)	440 x 210 x 44 mm	440 x 310 x 44 mm	440 x 210 x 44 mm	
Ventilation	Smart Fan ⁴			
Operating Temperature	0 to 50° C			
Storage Temperature	-40 to 70° C			
Operating Humidity	5% to 90% non-condensing			
Emission (EMI)	FCC Class A, CE Class A, VCCI Class A, IC, C-Tick			
Safety	CB, cUL, LVD			

⁴ By default, the fan speed is low. When over 40° C, the fan switches to high speed and remains high until the temperature is down to 35° C.

Technical Specifications		DGS-3120-48PC	DGS-3120-24SC	DGS-3120-24SC-DC
General	Interface	44 10/100/1000BASE-T 4 Combo 10/100/1000BASE-T/SFP	16 10/100/1000BASE-T 8 10/100/100Base-T/SFP ports	16 10/100/1000BASE-T 8 10/100/100Base-T/SFP ports
	Optional Redundant Power Supply	DPS-700	DPS-200	-
	Console Port		RJ-45	
Performance	Switching Capacity	136 Gbps	88 Gbps	88 Gbps
	64-Byte Packet Forwarding Rate	101.19 Mpps	65.48 Mpps	65.48 Mpps
	MAC Address Table Size	16 K Entries		
	Packet Buffer Memory	2 MB		
	Flash Memory	32 MB		
PoE	PoE Standard	802.3af and 802.3at	-	-
	PoE Capable Ports	up to 15.4W per port (802.3af) up to 30W per port (802.3at)	-	-
	PoE Power Budget	370 watts 740 watts (with DPS-700 RPS)	-	-
	Auto Power/Device Discovery	√	-	-
	Over-Current Protection	√	-	-
Stacking	CX4 Stacking Port		√	
	Max. Number of Units Per Stack		6	
	Bandwidth Topology		Linear/Ring	
MTBF (Hours)	-	-	-	
Acoustics	-	-	-	
Heat Dissipation	-	-	-	
Power Input	100 to 240 VAC, 50 to 60 Hz Internal Universal Power Supply			
Max Power Consumption	-	-	-	
Dimensions (W x D x H)	440 x 380 x 44 mm	440 x 210 x 44 mm	440 x 210 x 44 mm	
Ventilation		Smart Fan ⁴		
Operating Temperature		0 to 50° C		
Storage Temperature		-40 to 70° C		
Operating Humidity		5% to 95% non-condensing		
Emission (EMI)		FCC Class A, CE Class A, VCCI Class A, IC, C-Tick		
Safety		CB, cUL, LVD		

⁴ By default, the fan speed is low. When over 40° C, the fan switches to high speed and remains high until the temperature is down to 35° C.

Software Features

Stackability

- Physical Stacking
 - Up to 40G Stacking Bandwidth
 - Up to 6 units per Stack
- Virtual Stacking
 - D-Link Single IP Management (SIM)
 - Up to 32 units per Virtual Stack

L2 Features

- MAC Address Table: 16K
- Flow Control
 - 802.3x Flow Control
 - HOL Blocking Prevention
- Jumbo Frame up to 13K Bytes
- Spanning Tree Protocols
 - 802.1D STP
 - 802.1w RSTP
 - 802.1s MSTP
 - BPDU Filtering
 - Root Restriction
- ERPS (Ethernet Ring Protection Switching)^{2,3}
- Loopback Detection
- 802.3ad Link Aggregation
 - Max. 32 groups per device/ 8 Gigabit ports per group
- Port Mirroring
 - One-to-One
 - Many-to-One
 - Flow-based
 - RSPAN Mirroring

L2 Multicasting

- IGMP Snooping
 - IGMP v1/v2/v3 Snooping
 - Supports 1024 IGMP groups
 - Port/Host-based IGMP Snooping Fast Leave
 - Report Suppression
- Limited IP Multicast
 - Up to 24 IGMP filtering profiles, 32 ranges per profile
- MLD Snooping
 - MLD v1/v2 Snooping
 - Support 1024 MLD Groups
 - Host-based MLD Snooping Fast Leave

VLAN

- VLAN Group
 - Max. 4K VLAN Groups
- GVRP
 - Max. 255 Dynamic VLAN Groups
- 802.1Q Tagged VLAN
- Port-based VLAN
- 802.1v Protocol VLAN
- Double VLAN (Q-in-Q):²
 - Port-based Q-in-Q
- Voice VLAN
- MAC-based VLAN
- ISM VLAN
- Asymmetric VLAN
- Private VLAN
- VLAN Trunking

L3 Features

- Max. 16 IP Interfaces²
- ARP Proxy²
- IPv6 Neighbour Discovery (ND)²

L3 Routing

- Static Route²
 - 512 static routing entries for IPv4/IPv6

QoS (Quality of Service)

- 802.1p
- 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 Class²
 - IPv6 Flow Label²
 - TCP/UDP Port
 - User-Defined Packet Content
- Supports following Actions for Flows
 - Remark 802.1p Priority Tag
 - Remark TOS/DSCP Tag
 - Bandwidth Control
- Bandwidth Control
 - Port-based (Ingress/Egress, Min. Granularity 64Kbps)
 - Flow-based (Ingress/Egress, Min. Granularity 64Kbps)

Access Control List (ACL)

- Support up to 1.5K access rules
- Support Egress ACL²
- 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 Label²
 - IPv6 Traffic Class²
 - User-Defined Packet Content
- Time-based ACL
- CPU Interface Filtering

Security

- SSH v2
- SSL v1/v2/v3
- Port Security
 - Up to 64 MAC addresses per port/VLAN
- Broadcast/Multicast/Unicast Storm Control

- Traffic Segmentation
- IP-MAC-Port Binding²
 - ARP Packet Inspection
 - IP Packet Inspection
 - DHCP Snooping
 - IPv6 ND Snooping
 - Support up to 512 Address Binding Entries per Device
- D-Link Safeguard Engine
- NetBIOS/NetBEUI Filtering
- DHCP Server Screening
- ARP Spoofing Prevention
- BPDU Attack Protection

AAA

- 802.1X:
 - Port-based Access Control
 - Host-based Access Control
 - Identity-driven Policy (VLAN, ACL or QoS) Assignment
 - Authentication Database Failover
- Web-based Access Control (WAC):
 - Port-based Access Control
 - Host-based Access Control
 - Identity-driven Policy (VLAN, ACL or QoS) Assignment
 - Authentication Database Failover
- MAC-based Access Control (MAC):
 - Port-based Access Control
 - Host-based Access Control
 - Identity-driven Policy (VLAN, ACL or QoS) Assignment
 - Authentication Database Failover
- Compound Authentication²
- Guest VLAN
- Microsoft® NAP
 - Support 802.1X NAP
 - Support DHCP NAP
- RADIUS Accounting
- RADIUS and TACACS authentication for switch access
- 4 Level User Account

D-Link Green Features

- Compliant with RoHS
- Power Saving by Link Status
- Power Saving by Cable Length
- Time-based PoE

Operation, Administration & Management (OAM)

- Cable Diagnostics
- 802.3ah Ethernet Link OAM^{2,3}
- 802.3ah D-Link Extension: D-link Unidirectional Link Detection (DULD)^{2,3}

Management

- Web-based GUI (Supports IPv4/IPv6)
- Command Line Interface (CLI)
- Telnet Server(Supports IPv4/IPv6)
- Telnet Client(Supports IPv4/IPv6)
- TFTP Client(Supports IPv4/IPv6)
- ZModem
- SNMP v1/v2c/v3
 - SNMP over IPv6²
- SNMP Traps

- System Log
- RMON v1:
 - Supports 1,2,3,9 groups
- RMON v2:
 - Supports ProbeConfig group
- LLDP
- sFlow²
- BootP/DHCP Client
- DHCP Auto-Configuration
- DHCP Relay
 - DHCP Relay Option 12
 - DHCP Relay Option 82
- Flash File System
- Multiple Images
- Multiple Configurations
- CPU Monitoring
- Debug Command
- SNTP
- Password Recovery
- Password Encryption
- ICMPv6²
- Trusted Host
- Microsoft® NLB (Network Load Balancing) Support

MIB

- RFC 1213 MIB II
- RFC 4188 Bridge MIB
- RFC 1157, 2571-2576 SNMP MIB
- RFC 1907 SNMPv2 MIB
- RFC 1757, 2819 RMON MIB
- RFC 2021 RMONv2 MIB

- RFC 1398, 1643, 1650, 2358, 2665 Ether-like MIB
- RFC 2674 802.1p MIB
- RFC 2233, 2863 IF MIB
- RFC 2618 RADIUS Authentication Client MIB
- RFC 2620 RADIUS Accounting Client MIB
- RFC 2925 PING & TRACEROUTE MIB
- RFC 2674, 4363 802.1p MIB
- RFC 1215 MIB Traps Convention

RFC Standard Compliance

- RFC 768 UDP
- RFC 791 IP
- RFC 792, 2463, 4443 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 3513, 4291, IPv6 Addressing Architecture
- RFC 2893, 4213 IPv4/IPv6 dual stack function
- RFC 2463, 4443 ICMPv6
- RFC 2462, 4862 IPv6 Stateless Address Auto Configuration
- RFC 2464 IPv6 Ethernet and definition
- RFC 1981 Path MTU Discovery for IPv6
- RFC 2460 IPv6
- RFC 2461, 4861 Neighbor Discovery for IPv6
- RFC 783 TFTP
- RFC 854 Telnet
- RFC 951, 1542 BootP
- RFC 2068 HTTP
- RFC 1492 TACACS
- RFC 2866 RADIUS Accounting
- RFC 2474, 3260 DiffServ

- RFC 1321, 2284, 2865, 3580, 3748 Extensible Authentication Protocol (EAP)
- RFC 2571, 2572, 2573, 2574, SNMP
- IPv6 Ready Logo Phase 2

²Supported in R2.0 EI (Enhanced Image) version only

³Supported from firmware R2.0 EI and above

Optional Products

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)
DV-601S ⁵	E2ES Management Module for D-View 6.0 Standard Edition
DV-601P ⁵	E2ES Management Module for D-View 6.0 Professional Edition

⁵Available in future release

Optional Redundant Power Supply

DPS-200	60 Watts Redundant Power Supply
DPS-500	140 Watts Redundant Power Supply
DPS-700	589 Watts Redundant Power Supply
DPS-800	2-slot redundant power supply chassis
DPS-900	8-slot redundant power supply chassis

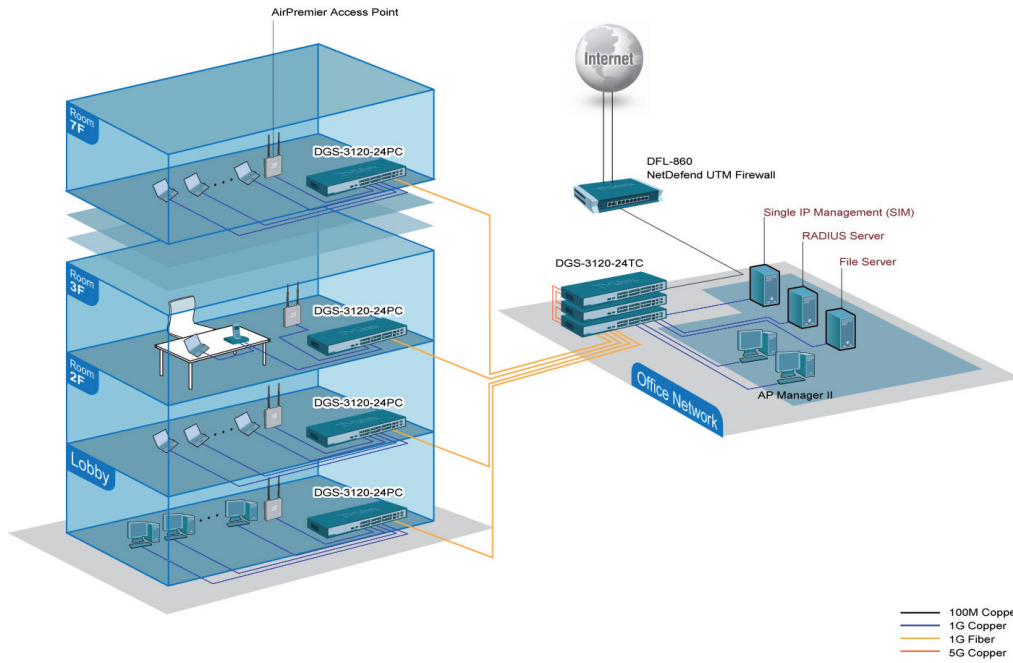
Optional SFP Transceivers

DEM-310GT	1000BASE-LX, Single-mode, 10km
DEM-311GT	1000BASE-SX, Multi-mode, 500m
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

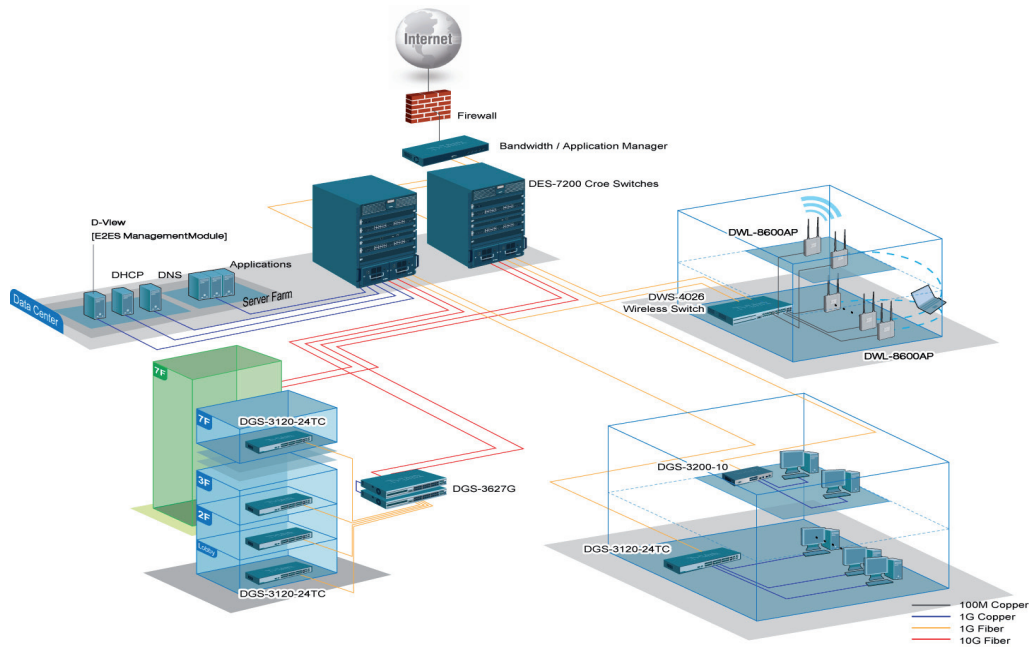
Optional WDM SFP Transceivers

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
DEM-220T	100BASE-BX, Wavelength Tx:1550nm Rx:1310nm, Single-mode, 20km
DEM-220R	100BASE-BX, Wavelength Tx:1310nm Rx:1550nm, Single-mode, 20km

Deploying the DGS-3120 Series in a small to medium sized network



Deploying the DGS-3120 Series in an Enterprise network



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