L2+ Unified Wired/Wireless Gigabit PoE Switches

Scalable Unified Wired/Wireless Network Architecture

- Manages up to 48 D-Link Unified Access Points
- Up to 192 Unified Access Points can be managed by a cluster of four DWS-3160 switches

Robust Wired/Wireless Security

- Built-in captive portal
- Rogue AP detection and mitigation
- 802.1X authentication
- Access control list

Seamless Mobility

- Fast roaming
- L3 roaming support, ensuring continuous connectivity

Advanced Switching and Routing

- VLAN routing
- RIP v1/v2 support
- Spanning tree
- IGMP/MLD snooping
- IPv6 ready
- 802.3af PoE support

Simplified Management

- Up to four switches may form a cluster, enabling single-IP management
- WebGUI or command line interface
- SNMP v1/2c/3
- Flow support
- Dual image

The DWS-3160 is D-Link's latest Unified L2+ Gigabit Wired/Wireless Switch. Designed to be the ideal mobility solution for medium-sized and large enterprises and service providers, the DWS-3160 empowers administrators to exercise total control over their wireless networks by centralizing all aspects of provisioning and management. Able to manage up to 64 D-Link Unified Access Points by itself and up to 256 in a switch cluster, the DWS-3160 can be configured to act either as a Wireless Controller in the core network, or as an L2+ Gigabit Switch at the edge, enabling it to be seamlessly integrated into any existing network infrastructure.

Simplified Management

The DWS-3160 is able to centralize all critical WLAN management, thereby eliminating the need to manage access points individually. The administrator simply assigns a profile to an individual D-Link Unified Access Point, and the configuration corresponding to that profile would be applied onto that access point automatically. In addition, the DWS-3160 can apply new firmware to all D-Link Unified Access Points on the network, thus greatly simplifying the upgrade process.

Besides its wireless capabilities, the DWS-3160 also excels as an advanced L2+ switch. Complete with RIPv1/v2 dynamic routing, ACL security, multi-layer QoS, comprehensive VLAN support, as well as Multicast Snooping capabilities, the DWS-3160 enables easy and flexible deployment. Furthermore, multiple DWS-3160s can form a Switch Cluster, which enables the administrator to configure all switches from one single Cluster Master. As the size of the cluster grows, so can the number of D-Link Unified Access Points being managed. Up to 256 D-Link Unified Access Points may be managed by the Switch Cluster. This helps to significantly simplify management and reduce maintenance efforts when a network is scaled up.

Trusted Security

The DWS-3160 offers a state-of-the-art Wireless Intrusion Detection System (WIDS), which empowers administrators to detect Rogue Access Points and Rogue Clients, effectively preventing them from causing damage to the network. The administrator can also activate various threat detections and use Radio Frequency Scan to sweep the entire wireless network to identify any possible security breach in advance.

When working in conjunction with D-Link Unified Access Points, Virtual Access Points may be easily configured and managed, allowing the administrator to assign different access privileges to different classes of users. In addition to WPA and WPA2, an added measure of protection is added with an advanced captive portal, thus enabling only authorized users to utilize the wireless network.

On the wired side, the DWS-3160 utilizes Access Control Lists to tightly control what goes in and out of the network by setting up a number of simple rules. Along with other advanced security features, such as 802.1X Network Access Control and advanced Denial-of-Service Protection, the DWS-3160 provides robust and centralized security, ensuring maximum network reliability.

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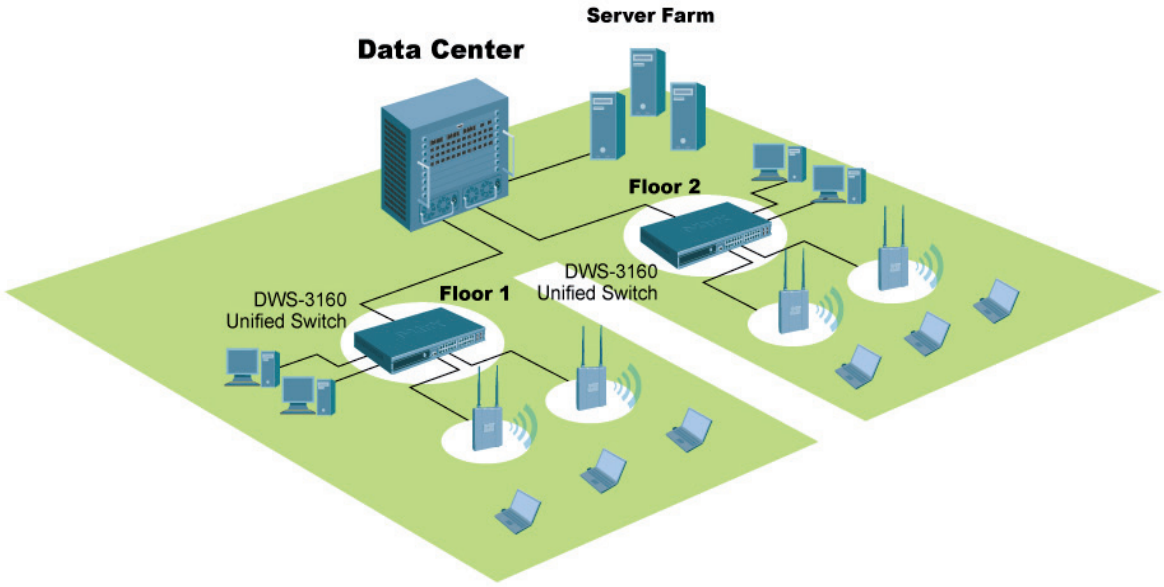
Network Resiliency
When a number of access points are deployed close to each other, interference may result if proper RF management is not implemented. The DWS-3160 is aware of how the radio spectrum is being utilized in the network and will automatically assign the most optimized channel to each access point under its management. This greatly reduces RF interference and will allow the administrator to deploy APs more densely.

To further minimize interference, when a number of access points are operating on the same channel within close proximity of each other, the DWS-3160 will reduce the transmission power of these access points. When, for whatever reason, there is no longer so many access points present, transmission power will be increased to expand network coverage.

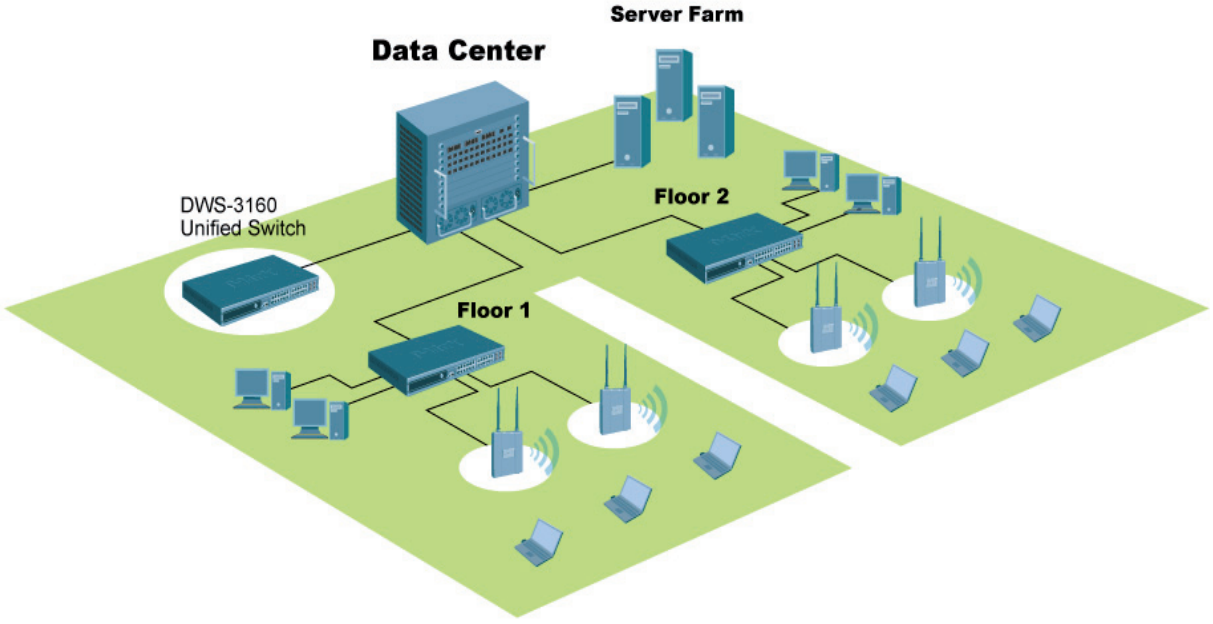
To ensure that no access point is overburdened while others sit idle, the DWS-3160 will prevent certain D-Link Unified Access Points from accepting new association requests if its resources are fully utilized. A neighboring D-Link Unified Access Point will instead pick up the load. This ensures that proper load balancing is in place, and the network will function in the most optimal state.

Seamless Mobility
Wireless clients can enjoy seamless and uninterrupted roaming from AP to AP if they are managed by the same DWS-3160, even if they are not in the same subnet. Because the DWS-3160 employs various mechanisms such as pre-authentication and key-caching, wireless users can freely roam the entire network without needing to re-authenticate. This allows tablet and smart phone and netbook computer users to travel freely within any premise covered by the DWS-3160's managed APs without having to worry about network connectivity, thus enabling for a truly mobile workplace.

Converged Edge Deployment



Overlay Deployment



Technical Specifications		DWS-3160-24TC	DWS-3160-24PC
			
System	Size	19-inch Sandard Rack-Mount Width, 1U Height	
	Network Interfaces	20 10/100/1000Base-T 4 Combo 10/100/1000Base-T/SFP	
	Console Port	RJ45	
	MAC Address Table	16K	
	Maximum Power Consumption	37.7 W	467 W (full POE load)
Performance	Switching Capacity	48 Gbps	
	Maximum Forwarding Rate	35.71 Million Packets per Second	
	Forwarding Method	Store and Forward	
	Packet Buffer Memory	2 MB	
	802.3af Power over Ethernet[1]	15.4 W Per Port 370 W Total Power Budget 740 W Total Power Budget With RPS	
	Number of VLANs per Device	3,965	
	Static Routes	512	
	Jumbo Frames	13K	
Physical	MTBF	561,829 hours	282,541 hours
	Acoustic	Below 30 °C (86 °F)< 46.3 dB Over 30 °C (86 °F):< 33.0 dB	Below 30 °C (86 °F)< 39.8 dB Over 30 °C (86 °F):< 51.8 dB
	Heat Dissipation	128.6 BTU/hr	With 370 W PoE load: 1593.5 BTU/hr
	Dimensions	DWS-3160-24TC: 440 x 210 x 44 mm (17.32 x 8.27 x 1.73 inches)	DWS-3160-24PC: 440 x 310 x 44 mm (17.32 x 12.20 x 1.73 inches)
	Weight (without optional module)	DWS-3160-24TC: 2.55 kg (5.63 pounds)	DWS-3160-24PC: 5.24 kg (11.55 pounds)
	Operating Temperature	0 to 50 °C (32 to °F)	
	Storage Temperature	-40 to 70 °C (to 158 °F)	
	Operating Humidity	10% to 90% RH	
	Storage Humidity	5% to 90% RH	
	EMI Certifications	FCC Class A CE ICES-003 C-Tick VCCI	
	Safety	UL/cUL CB	

[1] PoE available on DWS-3160-24PC only

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Software Features

Management
- Manages up to 48 Unified Access Points per switch, up to 192 APs per cluster
- Switch Cluster for Single IP Management
- SSH
- SSL
- SNMP v1, 2c, 3
- sFlow
- Dual Image Support
- Web GUI
- Command Line Interface

AP Management
- AP Auto-Discovery
- Remote AP Reboot
- AP Monitoring: List Managed AP, Rogue AP, Authentication Failed AP
- Client Monitoring: List clients associated with each Managed AP
- Ad-hoc Client Monitoring
- AP Authentication Supporting Local Database and External RADIUS Server
- Centralized RF/Security Policy Management
- Automatic AP RF Channel Adjustment
- Automatic AP Transmit Output Power Adjustment
- Centralized Firmware Upgrade

Managed Unified Access Points
- DWL-3600AP
- DWL-6600AP
- DWL-8600AP

Roaming
- Fast Roaming
- Intra-Switch/Inter-Switch Roaming
- Intra-Subnet/Inter-Subnet Roaming

Access Control & Bandwidth Management
- Up to 32 SSID per AP (16 SSID per frequency band)
- AP Load Balancing based on the number of users or AP utilization
- Flexible Mapping Schemes

L2 Features
- IGMP Snooping
- MLD Snooping
- 802.1D/w/s Spanning Tree
- 802.3ad Link Aggregation
- 802.1ab LLDP
- Port Mirroring (One-to-One and Many-to-One)
- Jumbo Frame Size: Up to 13 KB

L3 Features
- IPv4/v6 Static Route
- Routing Table Size: 512 Static Routes
- VRRP
- ARP Proxy

LAN Security
- RADIUS Authentication Management Access
- TACACS+ Authentication for Management Access
- SSH & SSL Support
- MAC Filtering
- 802.1X Port-based Access Control & Guest VLAN
- Denial of Service Protection
- Dynamic ARP Inspection
- Protected Port
- Broadcast Storm Control
- Access Control List

LAN Flow Control
- 802.3x Standard in Full Duplex Mode
- Back Pressure in Half Duplex Mode
- Head-of-Line Blocking Prevention

QoS (Quality of Service)
- Voice VLAN
- Wireless Multimedia (WMM)
- 802.1p Priority Queues
- CoS-based QoS
- Per-Flow Bandwidth Control
- Per-Port Traffic Shaping
- Minimum Bandwidth Guarantee

VLAN
- 802.1Q VLAN Tagging
- 802.1V
- Subnet-based VLAN
- MAC-based VLAN
- GVRP
- Double VLAN
- Voice VLAN

WLAN Security
- WPA Personal/Enterprise
- WPA2 Personal/Enterprise
- 64/128/152-bit WEP Data Encryption
- MAC Authentication
- Station Isolation
- Wireless Station and AP Monitoring based on RF Channel, MAC Address, SSID, Time
- Rogue AP and Client Detection & Mitigation
- Captive Portal
- Security Profile
- 802.1X Support
- Guest VLAN

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