



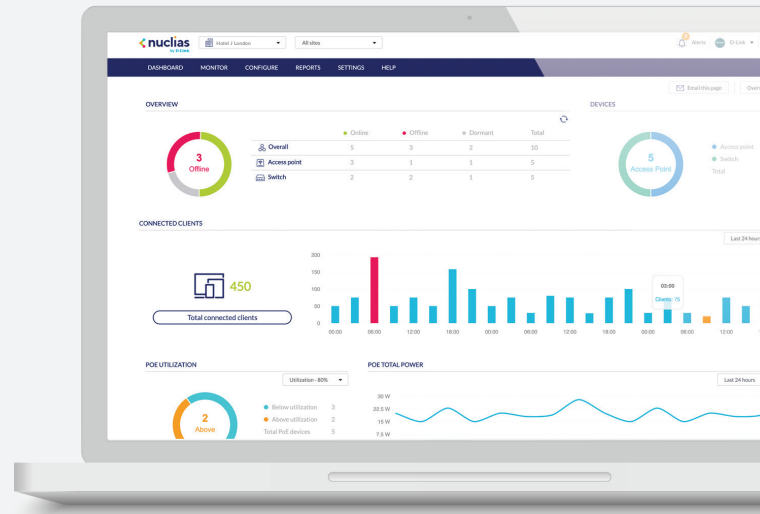
# Nuclias Cloud-Managed Switches

DBS-2000



## Nuclias Cloud Overview

Nuclias Cloud is D-Link’s complete, cloud-managed networking solution. It allows organizations with any level of IT resources the convenience of simple network deployment and configuration. Management and monitoring is as easy as ever. Troubleshooting is quick and painless. With Nuclias Cloud, scaling is accessible and can be done on an ad hoc basis. It’s professional-grade networking, without the need for networking professionals.



▲ Intuitive Dashboard Interface

## Solution Features

- » Cloud Management
- » Zero-Touch Deployment
- » Intuitive Interface
- » Unlimited Scalability
- » Real Time Traffic Reporting & Analytics
- » Device Geolocation with Google Maps
- » Visualized Floor Maps
- » Automated Monitoring & Alerts
- » Multi-Tenant & Role-Based Administration
- » Band Steering
- » Bandwidth Optimization
- » Searchable Event Log and Change Log
- » Auto Channel Management
- » Authentication via Customizable Captive Portal, 802.1x and RADIUS Server
- » Social Login for Guest Wi-Fi Access
- » End-to-End Encryption
- » Over-the-Air Firmware Upgrades

## Solution Benefits

### 1 / End-to-End Solution

Nuclias Cloud is a complete Cloud-based WLAN infrastructure solution that provides end to end control over every network device, on any site, in your cloud-managed network. D-Link’s wide range of compatible devices offer a variety of capabilities at different price points. As a business driven solution, Nuclias includes a variety of enterprise tools. A customizable captive portal allows for a branded Wi-Fi experience, while reporting & analytics provide you the opportunity to better understand your network.



## 2 / Cloud Management

Cloud-based network management offers the flexibility and convenience you need. Admins can carry out various tasks using D-Link's centralized management platform via browser or app, anywhere with an Internet connection. Unlimited device and site scalability, along with multisite management, allow you to manage a worldwide network from a centralized location. Zero Touch Deployment does away with repetitive device configuration by remotely pushing settings to devices. Furthermore, devices can be managed in batches or individually for more precise control. These features, plus more, all consolidated on a unified platform make management as simple and as hassle-free as it should be.



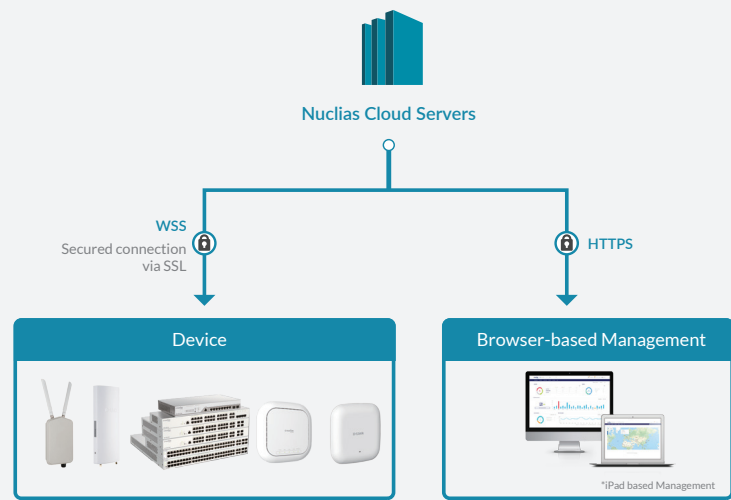
▲ Deployment Scenarios

## 3 / In-Depth Analytics & Automated Reporting

Nuclias Cloud delivers a deeper understanding of your network and its users through automated traffic analytics and status reports. Traffic can be viewed on a network-wide scale, or down to individual devices. Insights derived from these reports can be used to further drive business value.

## 4 / Peace-of-Mind

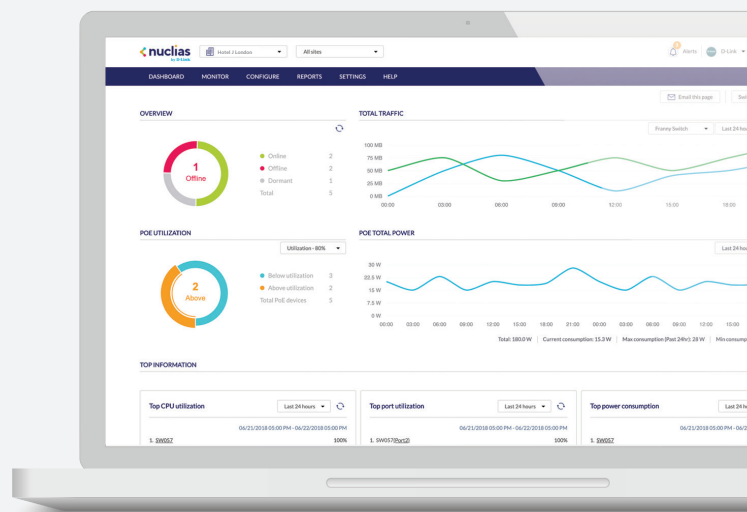
Nuclias Cloud carries a 99.9% reliability SLA (Service Level Agreement) that ensures a constant access to cloud services. Device operation will not be interrupted in the event that cloud services are unavailable. End to end encryption, role & privilege-based access control, amongst a host of other security features work together to preserve the integrity of your network. Automation capabilities provide an additional level of convenience, including control of network parameters, alerting, reporting and firmware updates.



▲ End-to-End Encryption

## 5 / Ease of Use

Nuclias Cloud has an intuitive interface that is designed to maximize your productivity. Admins can access easy to grasp, at-a-glance details of their network environment. Batch configuration and multitenancy support streamlines administrators' work. Meanwhile, social-login, airtime fairness and bandwidth priority make life easier for users.



▲ Statistics - Network Analytics

## Product Overview

The DBS-2000 Series Nuclias Cloud-Managed Switches are deployed as pre-managed, zero-configuration switches controlled and managed through D-Link’s Nuclias Cloud<sup>1</sup>. With options ranging from 10 to 52 ports, coming in both PoE and non-PoE models, the DBS series has a solution for any business deployment. They are best-in-class switches designed specifically for enterprise environments.

## Advanced Features

- Energy-Efficient Ethernet (EEE)
- Supports 802.1w Rapid Spanning Tree (RSTP)
- Supports IGMP Snooping to reduce the load of multicast routers and save bandwidth in network throughput
- Utilizes 802.3ad Link Aggregation to increase throughput and provide redundancy

## PoE Support

- 10MP/28MP/28P/52MP comply with IEEE 802.3af/at to provide up to 30 watts per port
- DBS-2000 Series PoE models support power budgets of 130 W for the 10P, 193 W for the 28P and 370 W for the 28MP/52MP
- Power devices in locations without access to power outlets
- Supports time-based PoE scheduling to save energy by turning off selected ports during off hours

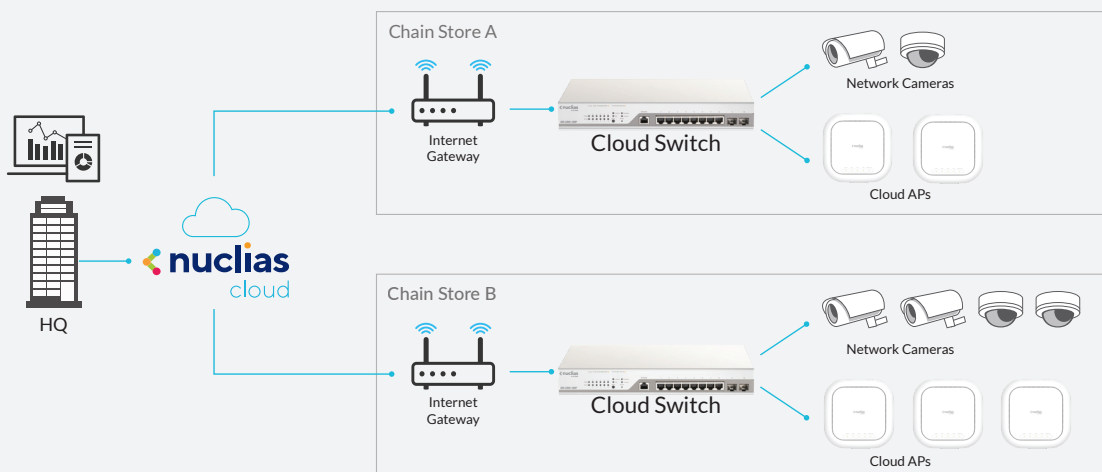
## Easy Troubleshooting

- DBS-2000 Series makes it quick and simple for network administrators to find and solve network issues
- Loopback detection is used to detect loops created by a specific port and automatically shuts down the affected port
- Cable diagnostics helps network administrators quickly examine the quality of the copper cables, recognize the cable type, and detect cable errors

## Seamless Integration

- DBS-2000 Series includes a wide range of port and media types
- Comes with options of 10/100/1000 Mbps ports, 10/100/1000 Mbps PoE, SFP 100/1000 Mbps ports as well as Combo 1000 Mbps/SFP
- All DBS-2000 Series PoE switches include support for IEEE 802.3af/at and higher power budgets, allowing more PoE devices to be powered by the switch and for devices to be installed in remote locations without immediate access to power outlets

## Example Topology



Technical Specifications						
General	DBS-2000-10MP	DBS-2000-28	DBS-2000-28MP	DBS-2000-28P	DBS-2000-52	DBS-2000-52MP
Hardware Version	•A1					
Number of Ports	• 8 x 10/100/1000 Mbps PoE • 2 x SFP 100/1000 Mbps	• 24 x 10/100/1000 Mbps • 4 x Combo 1000 Mbps/SFP	• 24 x 10/100/1000 Mbps PoE • 4 x Combo 1000 Mbps/SFP	• 24 x 10/100/1000 Mbps PoE • 4 x Combo 1000 Mbps/SFP	• 48 x 10/100/1000 Mbps • 4 x Combo 1000 Mbps/SFP	• 48 x 10/100/1000 Mbps PoE • 4 x Combo 1000 Mbps/SFP
Port Functions	<ul style="list-style-type: none"> <li>• IEEE 802.3 compliant</li> <li>• IEEE 802.3u/802.3z compliant</li> <li>• IEEE 802.3ab compliant</li> <li>• IEEE 802.3af/802.3at compliant</li> <li>• IEEE 802.3x Flow Control</li> </ul>			<ul style="list-style-type: none"> <li>• Supports manual/auto MDI/MDIX configuration</li> <li>• Supports half/full-duplex operation</li> <li>• IEEE 802.3az compliant</li> </ul>		
Performance						
Switching Capacity	• 20 Gbps	• 56 Gbps	• 56 Gbps	• 56 Gbps	• 104 Gbps	• 104 Gbps
Maximum Forwarding Rate	• 14.88 Mpps	• 41.7 Mpps	• 41.7 Mpps	• 41.7 Mpps	• 77.4 Mpps	• 77.4 Mpps
MAC Address Table Size	• 8K Entries	• 8K Entries	• 8K Entries	• 8K Entries	• 16K Entries	• 16K Entries
Packet Buffer	• 4.1 Mbits	• 4.1 Mbits	• 4.1 Mbits	• 4.1 Mbits	• 12 Mbits	• 12 Mbits
Flash Memory	• 32 MB					
PoE						
PoE Standard	• IEEE 802.3at • IEEE 802.3af	• n/a	• IEEE 802.3at • IEEE 802.3af	• IEEE 802.3at • IEEE 802.3af	• n/a	• IEEE 802.3at • IEEE 802.3af
PoE Capable Ports	• Ports 1 to 8	• n/a	• Ports 1 to 24	• Ports 1 to 24	• n/a	• Ports 1 to 48
PoE Power Budget	• 130 W • 30 W max. per port	• n/a	• 370 W • 30 W max. per port	• 193 W • 30 W max. per port	• n/a	• 370 W • 30 W max. per port
Power Consumption						
Standby Mode	• 4.3 W / 100 V • 5.2 W / 240 V	• 6.49 W / 100 V • 6.55 W / 240 V	• 18.5 W / 100 V • 17.1 W / 240 V	• 19.6 W / 100 V • 16.6 W / 240 V	• 13.7 W / 100 V • 13.9 W / 240 V	• 32 W / 100 V • 31.6 W / 240 V
Maximum Power Consumption	• 152.3 W (PoE on) • 9.4 W (PoE off)	• 17.32 W	• 446.1 W (PoE on) • 29.8 W (PoE off)	• 263.9 W (PoE on) • 30.6 W (PoE off)	• 34.85 W	• 478.9 W (PoE on) • 54.4 W (PoE off)
Physical						
Power Input	• 100 to 240 V AC • 50/60 Hz internal power supply					
MTBF	• 1,274,005 hours	• 992,594 hours	• 277,967 hours	• 469,262 hours	• 400,667 hours	• 236,406 hours
Acoustics	• 0 dB(A)	• 0 dB(A)	• 51.7 dB(A)	• 51.7 dB(A)	• 0 dB(A)	• 52.4 dB(A)
Heat Dissipation	• 519.51 BTU/hr	• 59.09 BTU/hr	• 1521.99 BTU/hr	• 900.36 BTU/hr	• 118.92 BTU/hr	• 1634.01 BTU/hr

Weight	• 1.77 kg (3.90 lbs)	• 2.15 kg (4.74 lbs)	• 3.94 kg (8.68 lbs)	• 3.75 kg (8.27 lbs)	• 3.46 kg (7.63 lbs)	• 6.26 kg (13.80 lbs)
Dimensions	• 330 x 180 x 44 mm (12.09 x 7.09 x 1.73 in)	• 440 x 140 x 44 mm (12.09 x 5.51 x 1.73 in)	• 440 x 250 x 44 mm (12.09 x 9.84 x 1.73 in)	• 440 x 250 x 44 mm (12.09 x 9.84 x 1.73 in)	• 440 x 210 x 44 mm (12.09 x 8.27 x 1.73 in)	• 440 x 430 x 44 mm (12.09 x 16.93 x 1.73 in)
Ventilation	• Fanless	• Fanless	• 2 x Fans	• 2 x Fans	• Fanless	• 3 x Fans
Operating Temperature	-5 to 50 °C (23 to 122 °F)					
Storage Temperature	-20 to 70 °C (-4 to 158 °F)					
Operating Humidity	0% to 95% non-condensing					
Storage Humidity	0% to 95% non-condensing					
EMI	CE, FCC, VCCI, BSMI					
Safety	UL, CB, LVD, BSMI, CCC					
<b>Software Features</b>						
VLAN	<ul style="list-style-type: none"> <li>• 802.1Q Tagged VLAN</li> <li>• Management VLAN</li> <li>• Voice VLAN</li> </ul>		<ul style="list-style-type: none"> <li>• VLAN Group</li> <li>• Supports 256 static VLAN groups</li> <li>• Guest VLAN</li> </ul>			
L2 Features	<ul style="list-style-type: none"> <li>• Port Mirroring</li> <li>• Jumbo Frames</li> <li>• IGMP Snooping <ul style="list-style-type: none"> <li>• IGMP v1/v2/v3 awareness Snooping</li> <li>• Supports 256 Groups</li> </ul> </li> <li>• Cable Diagnostics</li> </ul>		<ul style="list-style-type: none"> <li>• LLDP</li> <li>• Spanning Tree Protocol <ul style="list-style-type: none"> <li>• 802.1w RSTP</li> </ul> </li> <li>• 802.3ad Link Aggregation</li> <li>• Time-based PoE</li> </ul>			
Security	<ul style="list-style-type: none"> <li>• SSL</li> <li>• DHCP Server Screening</li> <li>• 802.1x port/MAC-based authentication<sup>2</sup></li> </ul>		<ul style="list-style-type: none"> <li>• Access Control List (ACL) <ul style="list-style-type: none"> <li>• Max # of Entries: 768</li> </ul> </li> </ul>			
Management	• Cloud-based through Nuclias <sup>1</sup>		• Nuclias mobile app			
Green Technology	• Compliant with RoHS 6					

Order Information	
Part Number	Description
DBS-2000-10MP	8 Ports 10/100/1000 Mbps PoE + 2 Ports 100/1000 Mbps SFP Nuclias Cloud-Managed Switch
DBS-2000-28	24 Ports 10/100/1000 Mbps + 4 Ports Combo 10/100/1000BASE-T/SFP Nuclias Cloud-Managed Switch
DBS-2000-28P	24 Ports 10/100/1000 Mbps PoE + 4 Ports Combo 10/100/1000BASE-T/SFP Nuclias Cloud-Managed Switch
DBS-2000-28MP	24 Ports 10/100/1000 Mbps PoE + 4 Ports Combo 10/100/1000BASE-T/SFP Nuclias Cloud-Managed Switch
DBS-2000-52	48 Ports 10/100/1000 Mbps + 4 Ports Combo 10/100/1000BASE-T/SFP Nuclias Cloud-Managed Switch
DBS-2000-52MP	48 Ports 10/100/1000 Mbps PoE + 4 Ports Combo 10/100/1000BASE-T/SFP Nuclias Cloud-Managed Switch
Licenses	
DBS-WW-Y1-LIC	1 Year Cloud License
DBS-WW-Y3-LIC	3 Years Cloud License
DBS-WW-Y5-LIC	5 Years Cloud License
Optional SFP Transceivers	
DGS-712	1000BASE-T copper
DEM-302S-LX	1000BASE-LX, single-mode, 2 km
DEM-302S-BXD/BXU	Gigabit WDM transceiver, single-mode, 2 km
DEM-310GT	1000BASE-LX, single-mode, 10 km
DEM-311GT	1000BASE-SX, multi-mode, 550 m
DEM-312GT2	1000BASE-SX, multi-mode, 2 km
DEM-314GT	1000BASE-LHX, single-mode, 50 km
DEM-315GT	100BASE-ZX, single-mode, 80 km
DEM-330T/R	Gigabit WDM transceiver, single-mode, 10 km
DEM-331T/R	Gigabit WDM transceiver, single-mode, 40 km
DEM-210	100BASE-FX, single-mode, 15 km
DEM-211	100BASE-FX, multi-mode, 2 km
DEM-220T/R	Fast Ethernet WDM transceiver, single-mode, 20 km

<sup>1</sup> Active D-Link Nuclias account and valid device license required.

<sup>2</sup> MAC-based authentication will be available in future firmware releases (expected Q4 2020)

03/19/2020