nuclias
cloud

Solution
Overview

D-Link®

Introduction

Nuclias Cloud is D-Link's 100% Cloud network management solution for Small-to-Medium Sized Businesses (SMBs) with multiple network deployment sites and limited IT resources such as hotels, restaurants, chain-stores, and campuses. It is a ready-made and independently-maintained solution that allows SMBs to manage and monitor their own networks remotely, or outsource this work to a Managed Service Provider (MSPs), featuring zero-touch installation, zero-cost platform upgrades and security fixes, unlimited scalability, 99.9% reliability, and a very light footprint.

It is a comprehensive solution, encompassing network devices and the Cloud platform that runs them, for businesses seeking a hassle-free, worry-free IT network experience, where costs are transparent, and things just work.

Challenges Facing SMBs

Ballooning Complexity & Cost

Building a high-performance multi-site network is a very complex task that can take months or even years when starting from scratch. Traditional enterprise solutions offer the extensibility, scalability, and features you need, but they can also be highly complex, requiring special services for deployment, maintenance, and expansion, special training for operation, and expensive annual maintenance contracts that must be kept current to receive all the latest patches and updates.

And when it comes to managing and monitoring such networks, most organizations are paying for features they neither need nor use. According to an IDG Research Services survey, many businesses would be happy to give up certain functions or capabilities to reduce their Total Cost of Ownership (TCO). Of the over 100 respondents involved in purchasing network management and/or monitoring solutions, two-thirds said they were paying for features and capabilities that were unused and unneeded, while 55% of IDG respondents using solutions from the top vendors were willing to give up unused functionality to reduce cost.

Security Concerns

In light of the Bring Your Own Device (BYOD) trend, Distributed Denial of Service (DDoS) attacks, and other emerging IoT-related threats, many smaller companies are finding that security needs a multi-faceted approach that they cannot carry out alone.

Cloud architecture allows a business to centralize its network management through security-enhanced networking devices for multiple locations through a web interface. The Cloud architecture and the communications between the administrator's browser and the Cloud must be encrypted, with security scan and penetration testing of the network solution itself.

Consistent control and visibility across the organization is also needed, from strict access requirements, to virtual firewall, to traffic control, to strongly-protected databases, to swift failure detection, complete disaster recovery.

So, how are SMBs expected to keep their security costs manageable and preserve the leanness, flexibility and the simplicity of their model?

Nuclias Cloud

Nuclias Cloud is a 100% Cloud-managed network management solution that can deliver tremendous efficiency gains for SMBs with numerous small locations and modest IT resources, such as retailers, restaurants, gas stations, and hotel chains., and is well-suited to businesses who want a network that just works, without being bothered with configuration or administration tasks.

Networks and sites can be managed remotely through an intuitive interface and dashboard, without the need to open up ceilings or travel to other sites to rectify small problems, and without the need for specialized IT skills. New devices can also be onboarded automatically through a zero-touch process, meaning non-technical personnel can handle this task if necessary.

Nuclias Cloud delivers the control and ease-of-use an SMB needs, without costly add-ons they'll never use. And what's more, any information sent to and from the Cloud is encrypted, with 99.9% reliability guaranteed. And because it's Cloud, you won't be needing your own server, or a dedicated Admin to run it. All you need are the Cloud-managed network devices, a Cloud license, and a PC or tablet to run the app – that's it.
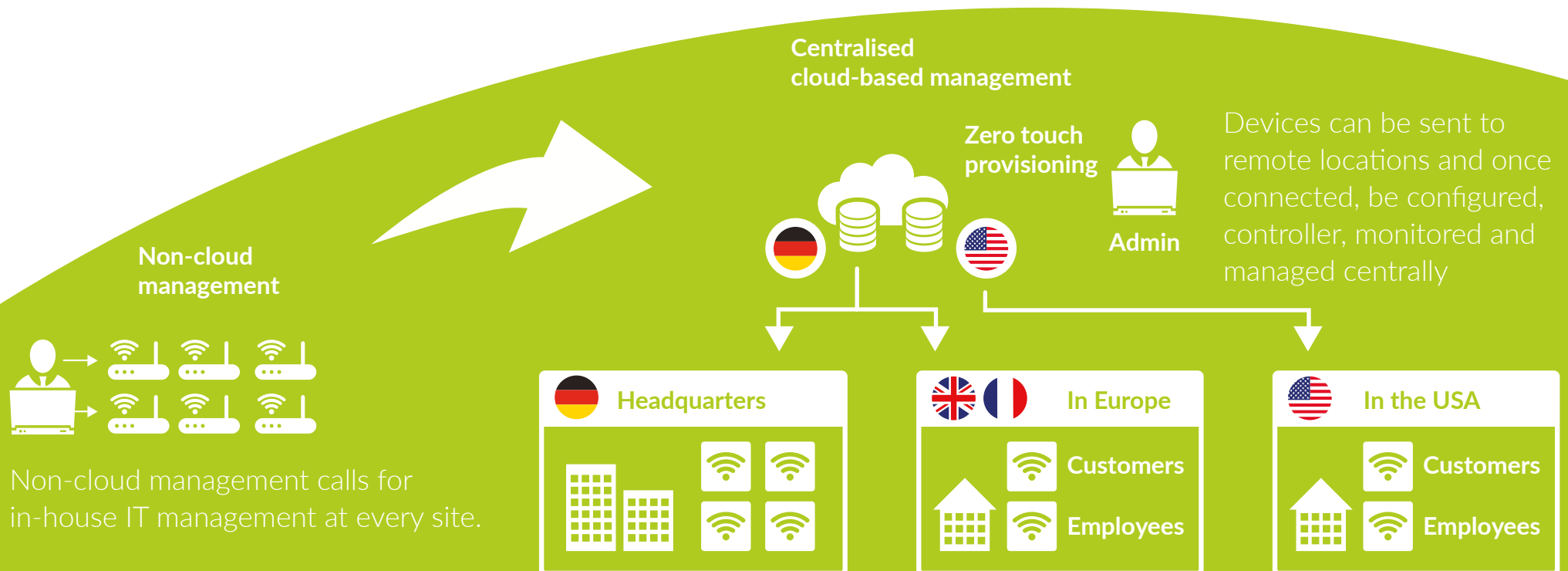
Opportunity for Resellers

Nuclias Cloud is ideal for SMBs who want a no-fuss, hassle-free network management solution that won't break the bank, giving Managed Service Providers (MSPs), Systems Integrators (SIs) and other resellers a tremendous opportunity to create a subscription-based B2B revenue stream. The reseller can enhance and simplify IT management for their SMB customers by creating accounts, generating reports, and remotely installing, managing, and monitoring the IT infrastructure and/or end-user systems for many customers – all with minimal commitment in terms of training time, IT resources and capital.

Why Nuclias Cloud?

Nuclias Cloud covers a range of wireless access points and managed network switches that are all controlled through a single, centralized web interface, allowing monitoring and management of the entire network and its devices from a single platform anywhere, anytime.

It allows any organization with any level of IT resources to quickly and easily set up, configure, monitor, troubleshoot, and manage their network deployment and/or multi-site deployment remotely.

Centralised cloud-based management

Zero touch provisioning

Admin

Devices can be sent to remote locations and once connected, be configured, controller, monitored and managed centrally

Non-cloud management

Non-cloud management calls for in-house IT management at every site.

Headquarters

In Europe

Customers

Employees

In the USA

Customers

Employees

Key Benefits

- Easy network deployment, monitoring & management

- Unlimited scalability

- Pay-as-you-grow

Solution Features

- Zero-touch deployment

- 99.9% reliability

- 24/7 automated monitoring

- Robust security w/encrypted communications

- Management via web portal /mobile apps

- Intuitive monitoring & reporting

- Remote configuration & custom alerting

- No service interruptions during scaling

Financial Features

- Subscription-based

- Predictable annual costs

- No Inter-domain controller (IDC)/ server installation fees

- No extra charge for platform/security updates

Reliable, Transparent, Simple

Nuclias Cloud is built from a tried and trusted Cloud architecture that currently supports more than half a million devices. It features high availability, with 24/7 automated failure detection, multilingual access, cross-time-zone support for rapid escalation (involving multiple local technical support teams), a 99.9% uptime Service-Level Agreement (SLA), and an experienced operations team that's managed more than five million Cloud accounts.

Being a 100% Cloud-based Software-as-a-Service (SaaS), Nuclias Cloud is highly accessible and offers transparent pricing, with no hidden costs or separate bills for Cloud hosting and configuration.

With Nuclias Cloud, you don't need IT personnel to keep on top of demands such as guest-network creation, Wi-Fi deployment to additional locations, device firmware updates, and device alerts.

Network configurations and firmware updates are pushed to our remote devices through the Cloud, without the need for IT personnel or extra staff onsite. And if there's ever a Cloud access failure, devices will continue to run, because your business comes first.

No additional training, no additional costs; you only pay for what you need, with the ability to scale back or expand, in line with business demand.

Who
Benefits?

Small to Mid-sized Businesses and Retail Chains

Nuclias Cloud is suited for any SMB/SME with a network that covers multiple sites, and needs the flexibility to add more, but doesn't have a lot of in-house IT skills to devote to management, maintenance, or expansion. New devices are optimized "out of the box" and the intuitive interface means basic monitoring & management tasks can be carried out without specialized IT skills, while the captive portal enables businesses to add their logo to the relevant pages for users and guests.

Hospitality

Nuclias Cloud makes it easy to use, manage, and monitor your network. Branding of your Wi-Fi access/registration page is easy, with Social Login enabled (Facebook, Google) or RADIUS server. And with the intuitive Nuclias Cloud interface, live network usage, traffic patterns, and security issues are clearly illustrated across establishments, with reports organized by date, time and location, as needed.

Education

Nuclias Cloud helps educators keep network usage in focus. Airtime fairness and automatic load balancing make it easy for schools to guarantee access to network resources when they're needed, while local device management enables resources to be throttle or cutoff if the network is being used inappropriately.

Cloud-enabled Products

Nuclias Cloud is a complete Network Management solution that encompasses Wireless Access Points and Network Switches, with Firewall Gateways and IP Cameras introduced in later 2019.

Nuclias Cloud switches are available with 10 to 52 ports, and include Power over Ethernet (PoE) options to simplify the installation of APs and other networked equipment. Our Wireless APs are next-generation 802.11ac Wave 2 devices, offering dual-band concurrent 2.4 GHz and 5 GHz radio frequencies, so they are suitable for high footfall locations and bandwidth-intensive applications such as data, voice, and video streaming. WPA3 will be added in Q2 2019 for enhanced security.

The management system itself offers all the essential elements to deliver a robust network service with a lean team. It has security features such as role-based administration, auditable change logs, authentication via a customizable captive portal, 802.1x and RADIUS server, over-the-air scheduled firmware upgrades, and a searchable network-wide event log.

Maintenance is aided by automatic monitoring and alerts, an intuitive VLAN configuration tool, Cloud-based RF optimization, and advanced traffic reporting and data analysis.

Excellent end-user experience is ensured through the ability to offer social login for Wi-Fi access via the customizable captive portal.

Managing via Web Browser

Nuclias Cloud allows you to know your business network as never before. Wi-Fi coverage and network capacity are provided via high-performance Access Points (APs) and Managed Switches deployed onsite, while configuration, notification, and ongoing management can be carried out remotely via computer or tablet. The Captive Portal is customizable (your name and logo can be added to it for an improved brand experience), you can add devices to any location as you grow, and detailed network usage statistics and reports can be provided across locations, and devices.

Nuclias.com supports Safari, Chrome, Internet Explorer and Edge on Windows and Mac.

Manage via App

You can easily manage your network on the go through the Nuclias Cloud mobile app, which gives you an instant overview of live usage, network health and delegates access to your teams. It shows maps detailing the location of your devices integrated into Google Maps, and creates Wi-Fi access log-in pages that can be fully customized with your brand logo.

The Nuclias Cloud app is available through App Store and Google Play. It supports iPad (iOS 10 and above, as of March 2019) and will support Android tablet (5.0 and above, estimated as of June 2019).
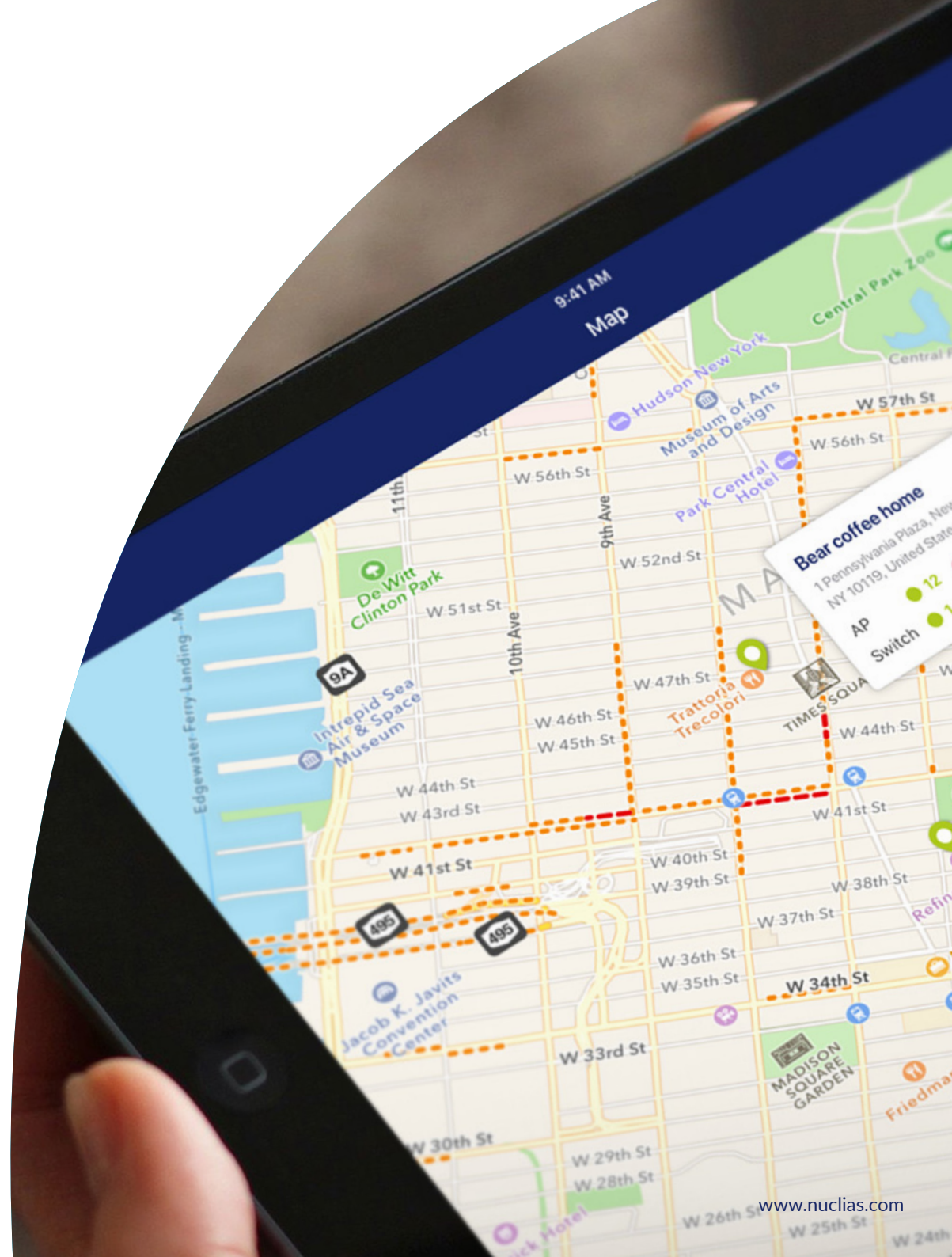
Getting **Started**

Zero-Touch Deployment

Nuclias Cloud offers true zero-touch provisioning. Devices can be shipped from stock pre-configured – a significant time-save on initial deployment. Setup is incredibly easy, and truly remote.

Cloud-enabled products, such as Access Points (APs) and Network Switches, are connected to the Internet via the DHCP, or you can set up Static IP on the device's web interface. The unique identifier (UID) is printed on the product label shown. You can either type it in via the web portal, or scan the QR code to add a device on the mobile app.

The license key can be included on the package if requested, and D-Link currently offers users a one-year complementary license key for all product lines. Bulk import is also available.

Nuclias Cloud user accounts and organization can be created through self-registration at **register.nuclias. com**, or by invitation from an MSP or reseller. Individual devices can be accessed by site under the organization.

A group can be pre-configured to an assigned site and configuration profile before installation. Its profile can be created under an organization as a template to apply at multiple sites, or under a specific site only. The default configuration can be applied without extra actions, and Admins can modify the configurations at any time.

Using **Nuclias Cloud**

Dashboard

Settings

- Manage user accounts
- Manage organization and sites
- Manage and update licenses
- Manage and add devices in the inventory for future setup
- Scheduled upgrade firmware over-the-air
- Customize alerts for both email and push notification

OVERVIEW

- Online/offline/dormant devices
- Connected clients
- PoE* use/total power
- Selected top info

ACCESS POINT

- Device overview
- Usage
- Connected clients
- Top info

*PoE = Power over Ethernet

SWITCH

- Device overview
- Total traffic
- PoE* use/total power
- Top info

MAP VIEW

- Geo-located sites via Google Maps

NETWORK VIEW

- Organization/site view

Monitoring

Monitoring of

- Devices
- Clients
- Event log
- Maps
- Floor Plans at different sites

Output

- Reports from devices including Top Info w/real-time display of 2 months and up to 2 yrs' archive.
- Export an Excel file or email real-time stats.
- Alerts can be push/email.
- Change log includes Users, Sites & Profiles.

Self-registration

Self-registration is simple. It can be done in three steps at **register.nuclias.com**:

1. Select a server region and country where data will be stored.

2. Fill in the information to create an organization and set up your account and 8-digit password.

3. Users will then receive an email from **verify@nuclias.com** with a verification link to validate the email address.

Access Points

DBA-1210P Nuclias Cloud Wave 2 Access Point

The DBA-1210P Nuclias Cloud Wave 2 Access Point is a best-in-class indoor access point designed specifically for enterprise environments. With new-generation 802.11ac dual-band concurrent 2.4 GHz and 5.0 GHz radios, the DBA-1210P offers high combined data rates to wireless clients, allowing for lightning-fast access to bandwidth intensive applications such as data, voice, and video. It has up to 1300 Mbps data transfer with 2x2 MU-MIMO and two spatial streams, beam forming and load balancing.

It is designed to be deployed as a pre-managed, zero-configuration Access Point controlled through the Nuclias Cloud, allowing network administrators to spend more time on providing reliable connectivity and services and less time managing devices.

Deployment is simplified, enabling installation into an existing network infrastructure (integrates Gigabit PoE Ethernet LAN port - 802.3af PoE; zero-touch provisioning; AP can be provisioned before deployment), while innovative D-Link Green features conserve energy without affecting performance.

DBA-1510P Nuclias Cloud Access Point

The DBA-1510P Nuclias Cloud Access Point is IEEE 802.11ac-capable with up to 1750 Mbps data throughput, 3x3 MIMO with two spatial streams, and supports MU-MIMO, beamforming and load balancing, evenly distributing wireless traffic to optimize SMB network efficiency.

Deployment is simple, enabling installation into an existing network infrastructure (integrates Gigabit PoE Ethernet LAN port - 802.3af PoE; zero-touch provisioning; AP can be provisioned before deployment), with Power over Ethernet (PoE) functionality available, while Innovative D-Link Green features conserve energy without affecting performance.

Managed Network Switches

DBS-2000 Nuclias Cloud Switch

Nuclias Cloud Switches include a robust set of Layer 2 and Layer 2+ features designed to support the most demanding applications.

Their extensive range meets the networking needs of businesses of all sizes with a range of port configurations from 10-52 ports. L2/L2+ features help optimize and improve network efficiency. The switches have optional PoE models that support PoE/PoE+ with high PoE power budgets. Combo fiber ports provide additional flexibility on choice and distance over which these switches can be connected.

D-Link Swich Highlights

-Zero-touch deployment

-Customizable network reports

-Centralized management

-Over-the-air scheduled firmware upgrade

-Customizable network reports

-Access policies for port/MAC-based network security

-Port scheduling (allowing timed port enablement/disablement)

-Alert when a switch or port goes offline

-ACL for network resource management and control

-Switch port configuration, including VLAN, role, PoE, and mirroring

Security

Nuclias Cloud accounts can only be accessed via HTTPS. This is the secure version of HTTP (the protocol over which data is sent between your browser and the website that you are connected to). Restricting access to HTTPS ensures that all communications between the Admin's browser and Nuclias servers are encrypted

End-to-End Encyption

All communications between the Nuclias Cloud server and devices are secured with TLS (Transport Layer Security) across all services.

Nuclias Cloud will feature WPA3 encryption at the device level as soon as it is widely available. WPA3 (Wi-Fi Protected Access 3) is a Wi-Fi security standard that will replace the current WPA2 standard, making it harder for people to interfere with a company's Wi-Fi network.

WPA standards govern what happens when you connect to a closed Wi-Fi network using a password. WPA2 defines the protocol a router and Wi-Fi client devices use to perform the "handshake" that allows them to securely connect and how they communicate. WPA3 will improve on the WPA2 protocol through more security features and individualized data encryption, providing:

-**Greater privacy on Wi-Fi networks**
-**Protection against brute-force attacks**
-**An easier connection process for devices without displays**
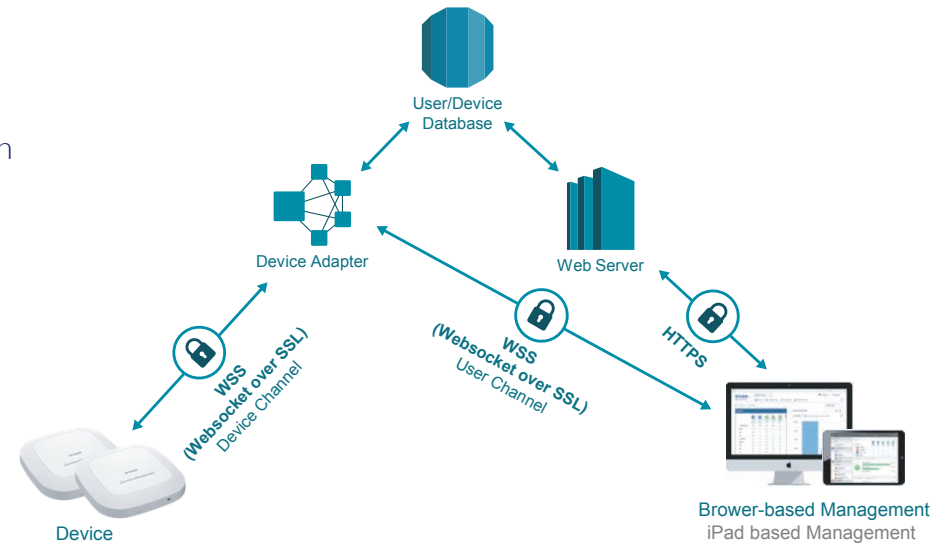
WPA3 defines a new handshake that will deliver robust protections even when users choose passwords that fall short of typical complexity recommendations.

In other words, even if you're using a weak password, the WPA3 standard will protect against brute-force attacks where a client attempts to guess at passwords over and over until they find the correct one.

Today, it's common to see Wi-Fi-enabled devices without displays. Everything from the Amazon Echo and Google Home to smart outlets and light bulbs can connect to a Wi-Fi network. Devices such as cameras, routers and network video recorders will be able to connect more easily and securely with WPA3.

Role & Privilege-Based Access Control

Network administrators using Nuclias Cloud can assign different privileges to users within or outside of the organization to manage and monitor network and guest access.

Multiple roles can be created to provide varying levels of management authority.

Provisioning network access control will allow organizations to enhance security and prevent accidental or malicious network misconfiguration.

Nuclias Cloud Service-Level Agreement (SLA)

- **24/7 automated failure detection.** Less than 10 minutes to start a new instance if Auto Scaling Group is abnormal.
- **Redundancy and disaster recovery.** Back-up accounts, configs, analytics, etc., on a daily basis in our server Region A. Three switching zones if an incident occurs. Back-up in server Region B for Disaster Recovery. Less than 12 hrs to complete Disaster Recovery. Up to 8 hrs to evaluate and up to 4 hours to start a new instance in server Region B. Nuclias Cloud has different server regions to comply with various local privacy laws, including GDPR.
- **Cloud services security.** IP and port-based firewalls; instances only managed by authorized IP and users; automatic response to DDoS to help minimize time to mitigate and reduce impact.

- **Out-of-band architecture.** User accounts, configurations, statistical data stored in Cloud servers; database stored in regional server in Frankfurt; account database encrypted and login password hashed; device password hashed.
- **Physical security followed by AWS standards.** Threat and electronic intrusion detection systems; surveillance cameras; access points to server rooms fortified with multi-factor authorization.
- **Penetration tested** (certified by third-party auditor).
- **Datacenter certification** (BS 10012:2017; followed by AWS compliance programs).

Why D-Link?

We're a global company with a local touch and we'll support you all the way. Over 95% of resellers that have direct contact with us say they're happy with the service we provide, and 96% are happy with our technical support.

We've seen how other Cloud-managed network solutions have been placed out of the reach of many resellers, so we've designed Nuclias to be as accessible as possible, without compromise to quality.