

Enabling the Digital Transformation of Hospitality

Nuclias Solutions by D-Link are designed to deliver professional-grade managed Wi-Fi capabilities that solve real-world problems for Hospitality brands. A powerful network can effectively enhance your reputation, solidify your brand, tighten your security, elevate the guest experience and your overall competitiveness as Digital Transformation becomes the new normal.



Hospitality





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How you face today's challenges in **Hospitality** will define your success over the coming years

Today's Hospitality Challenges

- » Your Brand is Vulnerable
- » Your Wi-Fi Matters
- » More Devices Than Before
- » More Places to Cover Than Before
- » More User Control Than Before
- » More Online Exposure Than Before
- » More Threats Than Before
- » More Concern Than Before
- » Incrementalism Will Not Be Enough
- » Wi-Fi is Commoditizing

Key Challenges in The Hospitality Industry

1.

Your Brand is Vulnerable

Hospitality encompasses everything from coffee shops to cruise liners. Connectivity and tech are fully integrated into operations and experiences, enhancing what you can do and how you do it. This has blurred the line between on- and offline, creating a more symbiotic relationship.

Though this has introduced many benefits, it has also exposed vulnerabilities. Social media, influencers, online reviews, cybersecurity and smart device hacking represent potential threats.

But it has also opened up opportunities for your business and growth — and Wi-Fi has a big role to play in this.



2.

Your Wi-Fi Matters

Wi-Fi is now one of the single most important hotel amenities, in fact 94% guests consider Wi-Fi as the most important amenity (Source: Hotel Chatter). Coffee shops have become co-working spaces. Influencers are becoming kingmakers amongst restaurants, spas, and other Hospitality providers.

But Wi-Fi provisioning in Hospitality is no longer about providing basic coverage and connectivity. Growing customer demands and security concerns are changing the game, rendering legacy unmanaged or networks obsolete.

And that demand just keeps growing.



3.

More Devices Than Before

Guests are no longer connecting via a single device. Worldwide, there is expected to be more than 75 billion connected devices by 2025 (source: Statista Research Department). Laptops, tablets, wearables, and other devices are joining in, including room-control tablets, employee-use tablets, signature pads and other point of sale (POS) equipment, and a growing diverse body of other Internet of Things (IoT) devices, with more to come.

This all adds up to a scale of connectivity that legacy Wi-Fi networks, many of which utilize RF technology from the 'one person, one device' era, were not really designed for.



4.

More Places to Cover Than Before

Your expanding millennial customer base increasingly expects their Hospitality experiences to be always-on, in all places. Be it by the poolside, the sauna, the fitness center, and other areas that you might not have thought to cover with your legacy network.

As guest users increasingly look at connected screens wherever they go, they're finding the gaps in your legacy network coverage, and those gaps will only grow wider unless corrective action is taken.





5.

More User Control Than Before

Your customers are becoming inseparable from their screens, they are increasingly unwilling to confine their media consumption to what you have to offer. They want greater control on how and where they access media.

Internet and streaming through the TV will not be enough, as guests actually prefer casting from their own devices (which they view as more secure than yours). If a family is involved, there may be multiple wireless video streams simultaneously running to a single suite, it is more than enough to make any legacy network balk.



6.

More Online Exposure Than Before

Your brand, its reputation, and its competitiveness are also becoming increasingly determined online. One-star customer reviews damage your prospects. So do snarky comments from prominent influencers. And if you are a Hospitality brand, you really do not want your Wi-Fi mentioned in either.

Unlike physical amenities such as towels and pillows, your wireless coverage is essentially invisible, making it very difficult to assure in terms of supply and quality, especially in a legacy unmanaged deployment (where network activity can not be illustrated).

Security issues are growing exponentially.



7.

More Threats Than Before

Hospitality, with its vast amounts of customer financial data, and often marginally secure IT infrastructure, has become a top commercial target for cyberattacks. It is not just small hotels either, big players such as Marriott conceded in 2019 that they lost over 5 millions passport numbers to hackers.

If you are lucky, a breach will merely hijack some of your computing power to mine cryptocurrency. If you are unlucky, a ransomware attack will paralyze your IT system, leaving you unable to carry out even basic tasks such as coding room keys. And if you are very unlucky, theft of credit card data will become a scandal, and possibly leave you exposed to legal liability.



8.

More Concern Than Before

Customers themselves are becoming more conscious of cybersecurity. Many view the Wi-Fi in an anonymous person's home as more secure than what they will get at a hotel, putting the onus on Hospitality providers to create a more robust and professional online experience that engenders trust. However, this is very hard to do on a legacy unmanaged network (with no centralized management over the user experience).



9.

Incrementalism Will Not Be Enough

An unmanaged Hospitality Wi-Fi network is obsolete, and nothing can be added to one that will change that. The reasons why are myriad, but two are critical.

Firstly, a future-ready network will require a much greater number of Access Points (perhaps double or more) than what a legacy network might be using now, and since all unmanaged networks have no centralized control over or transparency into what all those Access Points (APs) are doing, service gaps can still linger in an unmanaged network, even after expansion.

The second reason is security, or the lack thereof. Unmanaged networks lack centralized control over passwords or the login process. Users must either re-enter passwords when connection is handed over from one AP to another, or Hospitality providers must use generic (i.e. easy to steal) passwords; neither is a particularly desirable option.

Since unmanaged networks also have no centralized control over the updating process, some parts of your network may be overlooked missing out on key security or performance updates. All this is assuming your network is still being updated at all, which it may not be if some or all of your equipment is end of life (EOL).

In either case, a new order of professional-grade Wi-Fi connectivity is essential to the long-term viability of your brand, but it also has to respect your bottom line.

10.

Wi-Fi is Commoditizing

Like physical amenities such as towels and televisions, Wi-Fi has become something that everyone expects and uses. This puts smaller and more budget-minded Hospitality brands at a disadvantage, as they might face network demands comparable to those for a more upscale brand, and yet have nowhere near the same IT resources to meet it. But unlike a budget-grade hairdryer, which can still dry your hair with minimal fuss, budget-grade Wi-Fi can actually create trouble.

If you are a Hospitality brand looking to upgrade, you need professional-grade capabilities that eliminate fuss, create value and minimize expense, all at the same time.



The answer?

Nuclias Managed Networking Solutions by D-Link

Nuclias Managed Wireless Networking Solutions offer the capability, hosting flexibility, and value that Hospitality businesses need to upgrade and secure their network infrastructure, with minimal burden, inconvenience, distraction, or cost.

Both solutions offer centralized remote network management via an intuitive interface, and multi-tenant architecture that makes outsourcing a breeze.

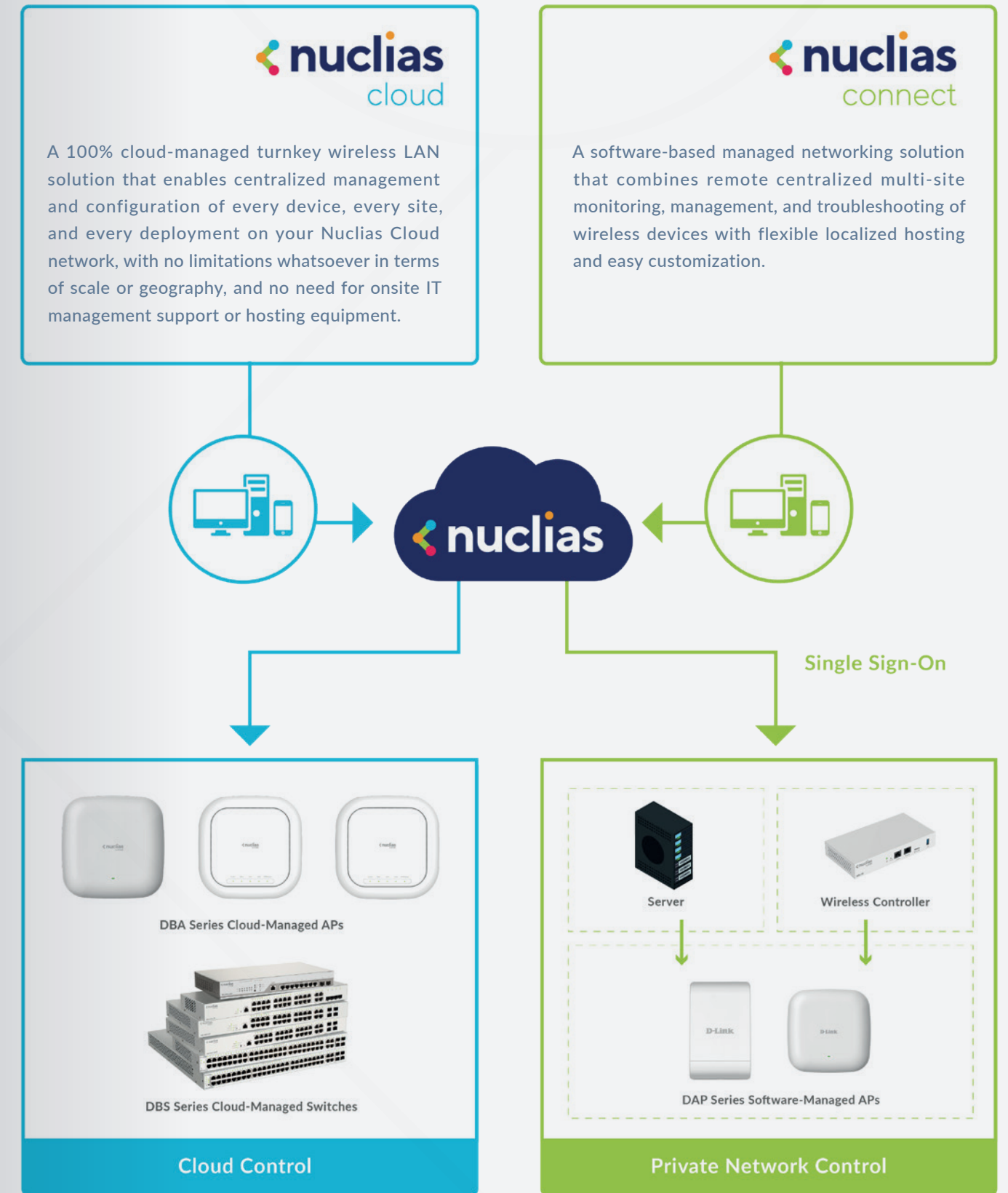
Your Network, Your Way



Why Nuclias is Your Best Choice

With devices, demand and security concerns growing for your wireless network, Hospitality brands need professional-grade solutions that can ease these concerns, affordably.

Nuclias solutions, by D-Link, deliver these capabilities for a wide variety of Hospitality brands of diverse specialties, sizes, and conditions on the ground.



Nuclias: Solution Comparison

		
Management	Wired and Wireless	Wireless
Hosting	100% Pure Cloud	On-Premise, Cloud-Enabled
Components	Cloud Platform, APs, Switches, Gateway	Software Controller, APs, Control Hub (Optional)
Access	Web Browser, Tablet App	Software, Mobile App
Multi-Site Management	Yes (Integrated)	Yes (via Single Sign-On)
IT Expertise Required	Low	Moderate
Configuration	Zero Touch	Onsite
Scalability	Unlimited	Up to 1000 devices



If you are in the Hospitality industry, you absolutely do not want your Wi-Fi featured in a one-star review or discouraging repeat business. But Hospitality customers consider connectivity, coverage, and speed (i.e. bandwidth) to be 'top problems' when it comes to Wi-Fi, and surveys suggest that they consider these to be bigger problems than providers do.

Nuclias Solutions address these pain points.

How you face today's challenges in **Hospitality** will define your success over the coming years

You Need Quality Wi-Fi

- » Problems with Getting Online
- » Coverage Problems
- » Speed Problems

Problems with Getting Online

Unmanaged legacy networks lack a centralized system for managing logins. This means as a guest moves from one coverage area to another, they must reconnect to another Access Point all over again. Not only does this interrupt what they were doing online but can rapidly cause frustration.

Furthermore, first impressions are important, and your hotel's Wi-Fi is no different. When the initial login process is placed with issues that are only eventually fixed after several calls or a trip to the front desk, guests are going to be left feeling disgruntled.

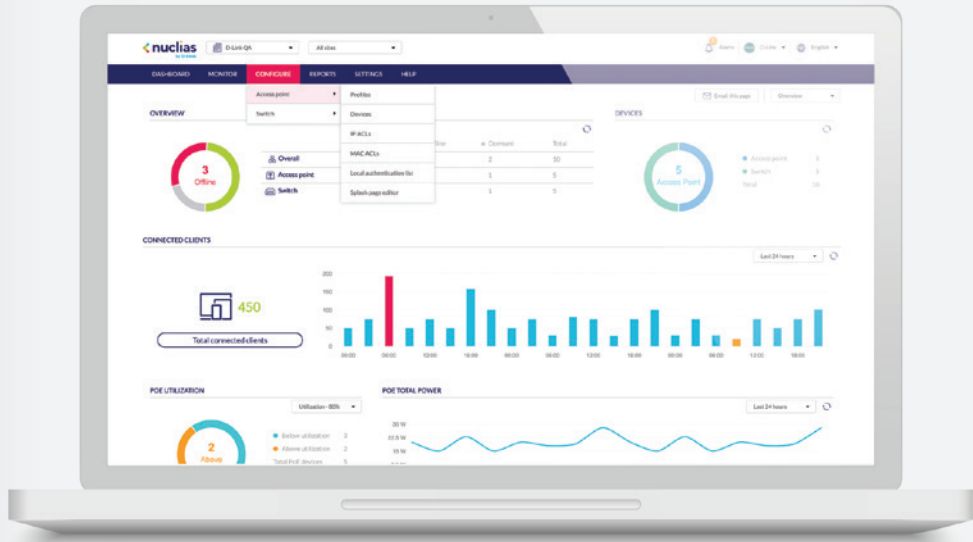


Enter Nuclias

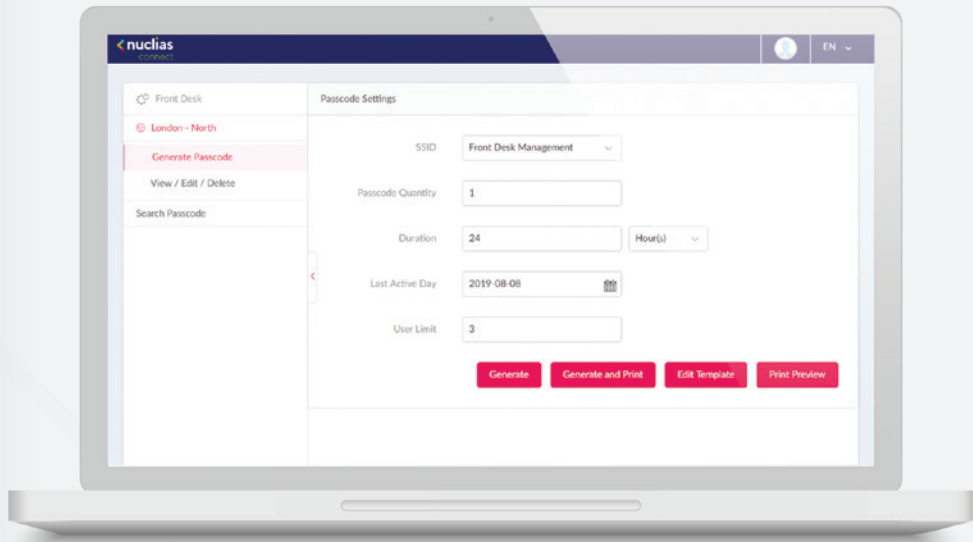
Nuclias enables centralized management over the login process. If you access a certain network at a particular AP, you will remain logged in for as long as you remain within that network's coverage. And what's more, Nuclias offers a variety of features that make the login process itself easier, with fewer chances for friction.

Key Solution Features

- 01. Centralized Network Management
- 02. Front-Desk Ticket Management
- 03. Social Login



01. **Centralized Network Management**
- When a user logs in to your network, the relevant data is housed in a centralized location, enabling them to remain logged-in anywhere within that particular network's coverage range, regardless of the individual AP being used, or number of handovers.



02. **Front-Desk Ticket Management**
- Nuclias can generate random passwords for easy printout on receipts or guest check-in documentation. Not only does this minimize login frustrations, it also bolsters security, while adding an air of professionalism to your brand, something particularly useful for smaller hospitality providers who need to see some business value from a network investment.



FREE Wi-Fi

Sign up with your e-mail to receive an authentication link for accessing the Wi-Fi.

☐ I have read and agreed to the Terms and Conditions





Log In

or



Log In with Facebook



Log In with Google

03. **Social Login**

/ Open Wi-Fi networks (i.e. no passwords) are convenient because they ask very little of users or providers. But they are also not encrypted, which means bad actors can see what you're doing with minimal effort. Social Login enables users to log in using their Google or Facebook passwords, enabling the data encryption that you would get with a more complicated arrangement, but with very little additional user inconvenience, and none for the provider, making this feature ideal for guest network scenarios where a touchpoint might not be feasible (lobbies, conference centers, etc.).



Equipment that works exceptionally, indoors and out

Coverage Problems

Poor coverage means gaps or weaknesses in Wi-Fi signal strength due to obstructions, radio interference, or the lack of a nearby AP.

Guests are increasingly finding these spots by bringing their connected devices to areas you might not have considered when your legacy network was built, and also because AP failures can go unnoticed on an unmanaged network until complaints start rolling in.

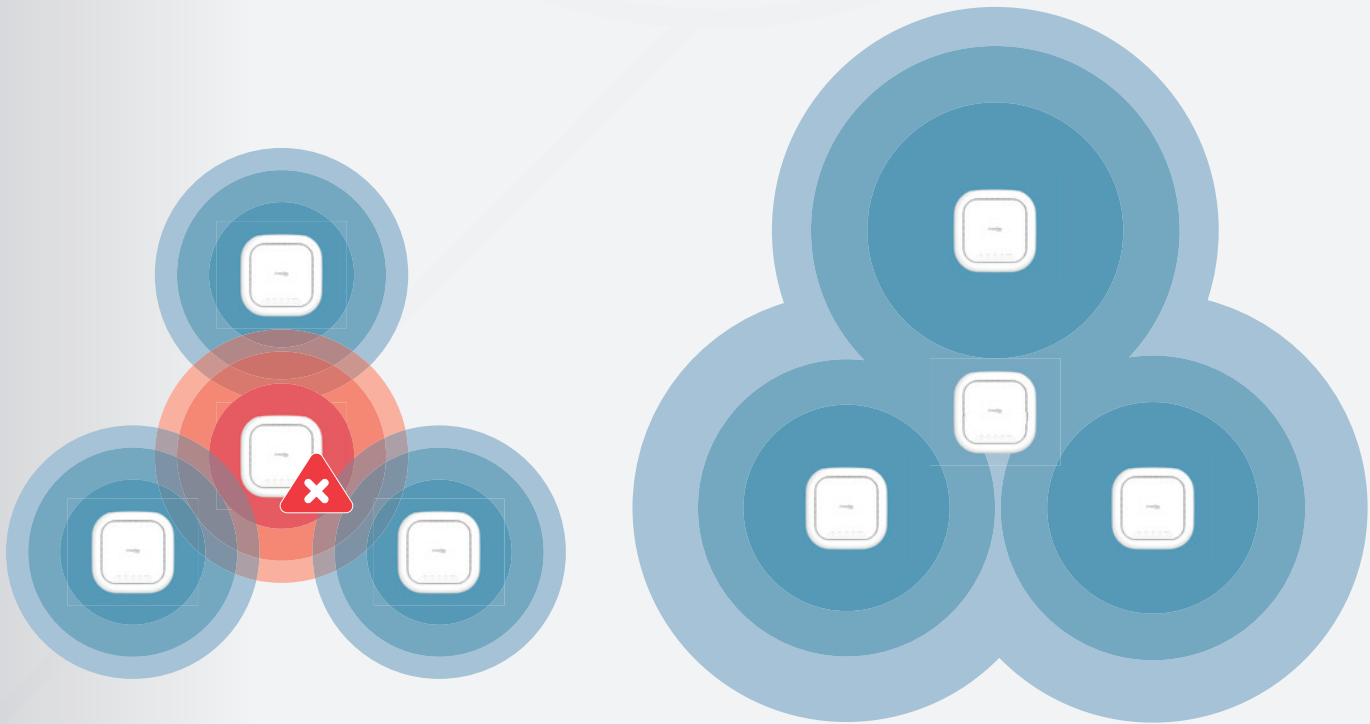


Enter Nuclias

Nuclias is designed to blanket your whole premises in high-speed Wi-Fi. Powerful APs that are easy to install can be setup where you need connectivity to further expand your coverage and make dead spots a thing of the past. Redundancy features also allow a safety buffer: connectivity does not breakdown in the event of temporary AP downtime.

Key Solution Features

- 01. Network Self-Healing
- 02. Latest Technology
- 03. Indoor/Outdoor Availability

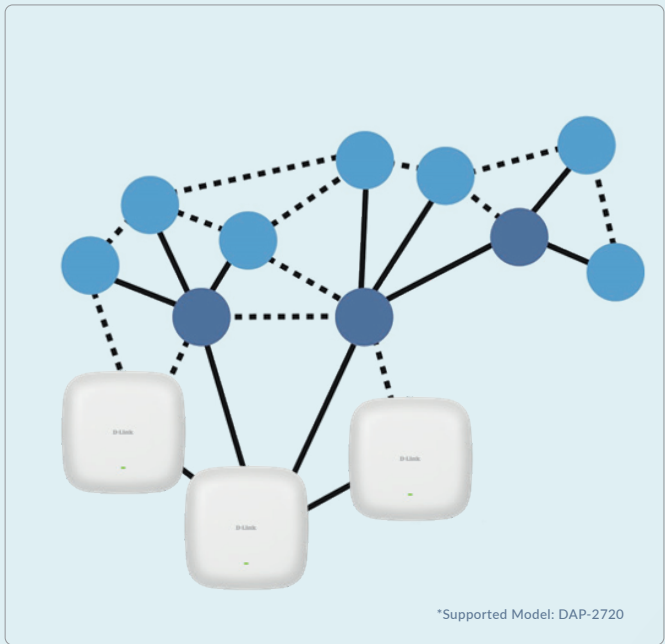


One of the APs temporarily fails

Nearby APs respond by increasing coverage area to compensate

- 01. **Network Self-Healing** / Because of the interference they generate, individual APs in a network deployment typically do not run at maximum coverage power. This, combined with Nuclias's intelligent device coordination, enables other APs to compensate automatically if one should malfunction or fail.

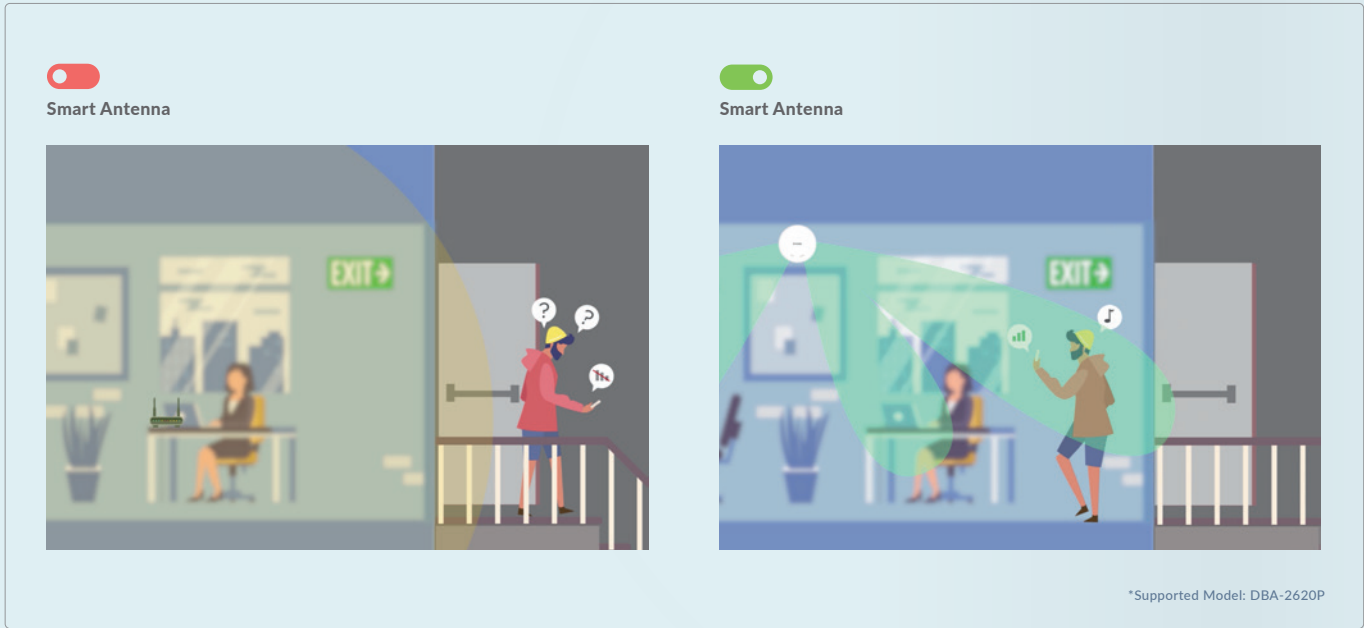
1. Mesh



2. Tri-Band Wi-Fi



3. Smart Antenna Technology



02. Latest Technology

Nuclias offers a variety of device-level innovations and technologies that enhance the online experience compared to legacy networks. The latest generations of 802.11ac Wave 2 and Wi-Fi 6 are supported on select devices, as are Tri-Band and Smart Antenna technology, all of which enable a much greater number of connected devices, and greater bandwidth to each device, especially in dense deployments that are common to Hospitality. Mesh networking is also available on selected devices which enables greater AP density and very easy management of small-area deployments such as restaurants, coffee shops, and guest houses.



03. Indoor & Outdoor Availability

Nuclias Solutions include a diverse variety of APs, including select models with the moisture and temperature tolerances you need for outdoor use, and the Power over Ethernet (PoE) capabilities needed for remote installations where a standard power supply will not be available.

Speed Problems

A bandwidth-starved online experience is defined by waiting for websites to open, for downloads to complete, and for videos to buffer. It can also means timing out from certain sites. 98% of guests now expect high-speed Wi-Fi (source: OpenKey).

As connected devices multiply, and as cord cutters increasingly expect to continue their binge watching at your hotel, raw bandwidth will increasingly be a pain point on legacy networks.



Enter Nuclias

Nuclias enhances the speed of your network through better coordination and a more balanced allocation of resources and traffic across devices, while other technical measures eliminate bottlenecks and prioritize the types of content that are more likely to trigger complaints from guest users if interrupted.

Key Solution Features

- 01. Auto RF Optimization
- 02. Airtime Fairness
- 03. Bandwidth Prioritization/QoS



01. **Auto RF Optimization** / A wireless Hospitality network is a complex system, and Nuclias intelligently coordinates the workload between APs, enabling better coverage and performance per AP than each could achieve on its own. This coordination also enables better client handover between APs, so that network service interruptions are minimized as users move around the coverage area.



02. **Airtime Fairness** / If one network user consumes a large portion of the available wireless bandwidth in a given area, it can create a poor online experience for other users nearby. But Airtime Fairness eliminates this problem, by allocating an equal amount of bandwidth dynamically to everyone within a given coverage area, so no one's experience suffers to excess.

Quality of Service

Without QoS



With QoS



03. **Bandwidth Priority and Quality of Service** / With Nuclias, bandwidth to a specific network (such as a VIP network) can be prioritized. Traffic can also be prioritized by category to favor certain resource-intensive online activities (such as video streaming or remote conferencing) common to Hospitality networks.



The other side of the Hospitality Wi-Fi equation is the cost. Not only must your Wi-Fi be good, it must also be free. Hotel guests now consider the absence of free Wi-Fi 'a dealbreaker,' and this can be intimidating when considering a managed network solution investment.

How you face today's challenges in **Hospitality** will define your success over the coming years

You Need Free Wi-Fi

- » Cost Problems
- » IT Problems
- » Value Creation
- » Security Problems

Cost Problems

The thought of overhauling your entire network can be daunting. It is not just the Access Points that need renewing, but everything else associated with it. Budget constraints are tight and often there just is not space to upgrade.

Whole Wi-Fi solutions often also come with a bloat of features, software and other equipment that you do not necessarily need and do not make much difference other than making an even bigger hole in your budget.



Enter Nuclias

Nuclias solutions address your concerns by minimizing the upfront costs, the software costs, and the burden on IT staff, and by creating value for your brand at the same time. It focuses on delivering the most bang for your buck, thanks to a robust foundation of technology, and a streamlined feature set focused on what really matters, with very easy management.

Key Solution Features

- 01. Upfront Costs
- 02. Software Costs

A photograph showing network equipment including a stack of switches, two white access points, a desktop monitor displaying a dashboard, and a laptop displaying a map.

- » Low Upfront Cost
- » Pay as you Grow



01. Upfront Costs

For our Nuclias Cloud-Managed Solution (Nuclias Cloud), putting the management computing power in the Cloud enables us to sell highly-capable technology at a lower cost than would be required if heavy-duty computing resources were required in each device. It also enables us to offer these management capabilities as a service, which is great if you need robust technical capability, but do not have a technology budget.

A photograph showing network equipment including a stack of switches, two white access points, a desktop monitor displaying a dashboard, and a laptop displaying a dashboard.

- » No Licensing Fees
- » Cost-Effective Scaling



02. Software Costs

For our Nuclias Connect Software-Managed Solution, there are absolutely no licensing fees involved of any kind at any point over its lifetime. Not for the APs, Management Appliances, Software Controller, security updates, or anything else. In other words, with Nuclias Connect, what you see is what you get.

IT Problems

Having the IT manpower can be a real challenge. If the size of your operation is relatively small, having a dedicated person for IT just does not make financial sense. For small business, wearing many hats has become the norm, and making head or tails of your network can be a real challenge for those with little in the way of an IT background.

Legacy networks also often lack essential features. Management is spread out, making even simple tasks such as rebooting a down Access Point an unnecessarily big hassle, and that is only after you find it out it is not functioning from angry guest complaints. That is also not to mention understanding your network and its users.

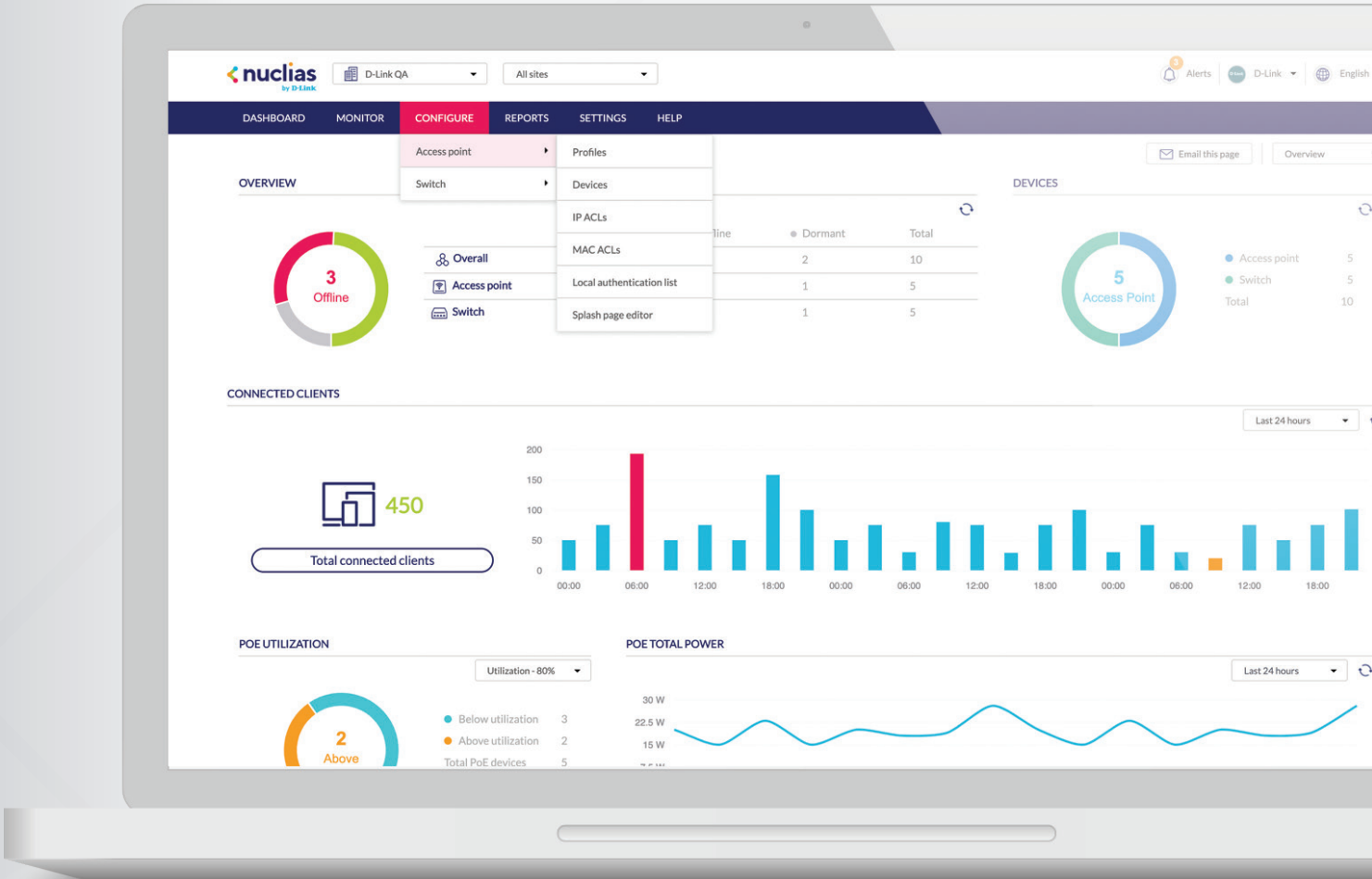


Enter Nuclias

Nuclias addresses this problem by enhancing what your IT people can do, expanding where they can do it, reducing the number of breakdowns they have to fix, reducing the amount of attention your network requires, and by making it easier to outsource your network management to a third party, such as a Managed Service Provider (MSP).

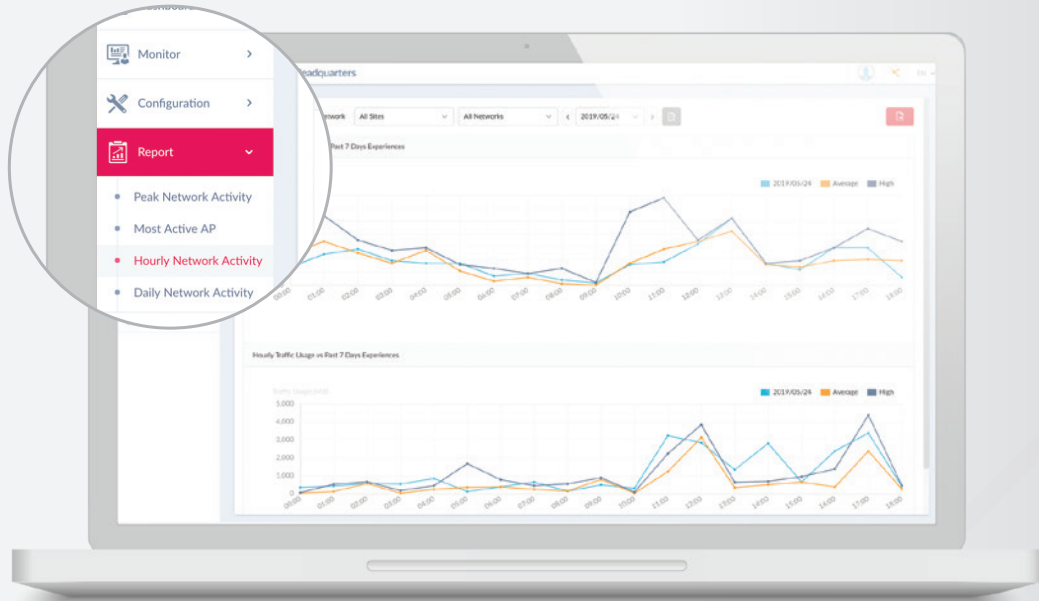
Key Solution Features

- 01. Intuitive Centralized Management
- 02. Timely Analytics & Reporting
- 03. Multi-Tenant Architecture with Easy Remote Management
- 04. Geographic Overlay
- 05. Mobile Access, Administration, Alerting



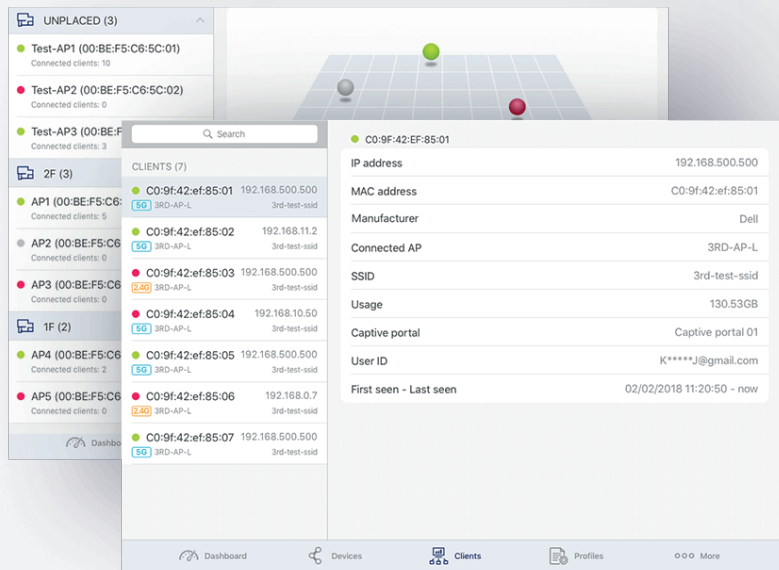
01. Intuitive Centralized Management

Nuclias enables an at-a-glance understanding and comprehensive control and troubleshooting across your entire network. Not only does this reduce the time spent visiting various sites, it also reduces the number of network breakdowns that cause such visits in the first place (by alerting you to latent problems before they become disruptive).



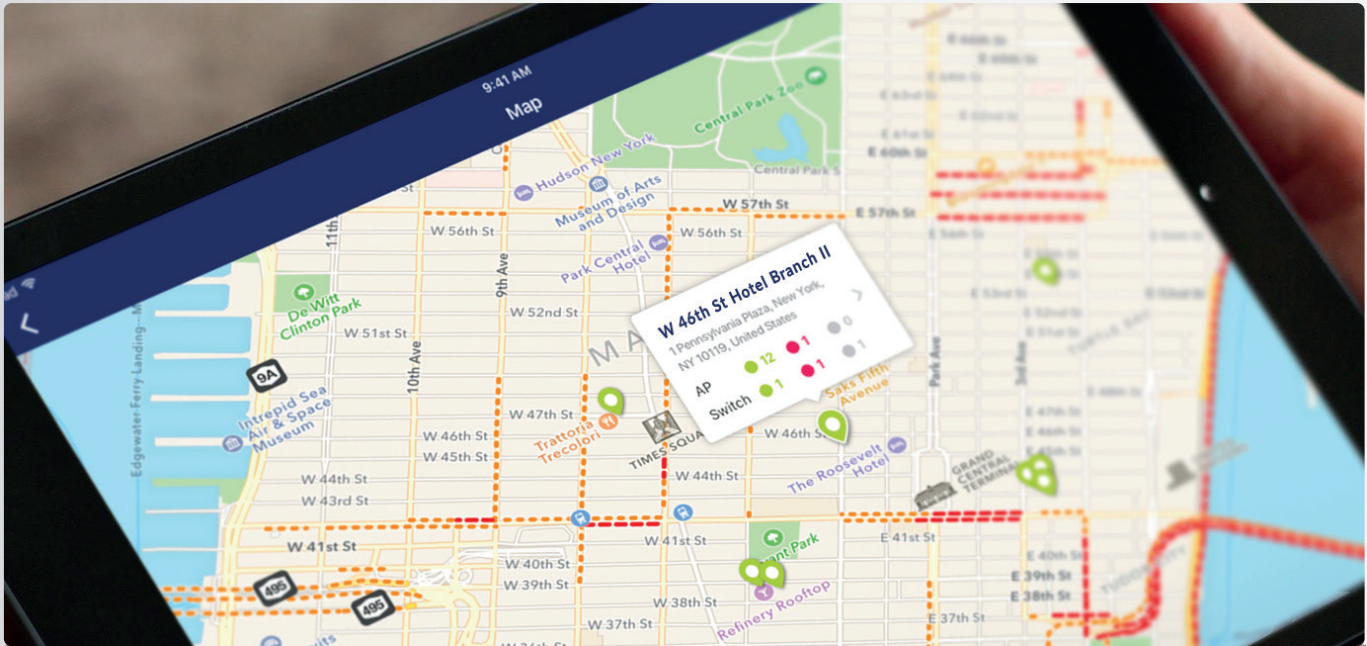
02. **Timely Analytics & Reporting**

— Hospitality providers often have a limited-to-non-existent understanding of what's happening on their networks. But with Nuclias, admins can enjoy an intuitive grasp of what is happening now, where it is happening, and how it's trending. By seeing where busy spots are, where underutilized spots are, what percentage of available resources are being used, and any alarms, admin efficiency is enhanced, both now through timelier maintenance, and in the future through better planning.



03. **Multi-Tenant Architecture with Easy Remote Management**

— Nuclias enables easy outsourcing of network management to an MSP by enabling multiple networks (i.e. multiple MSP customers) to be managed through a single interface, operable remotely, so that your in-house IT staff are freed up to focus on other things.



Value Creation

Hospitality providers must find new ways to create value from their Wi-Fi, and unmanaged networks largely confine your monetization options to paid Wi-Fi access, or premium Wi-Fi access. Neither option is viable anymore when guests are bringing with them an average of three connected devices to your hotel.

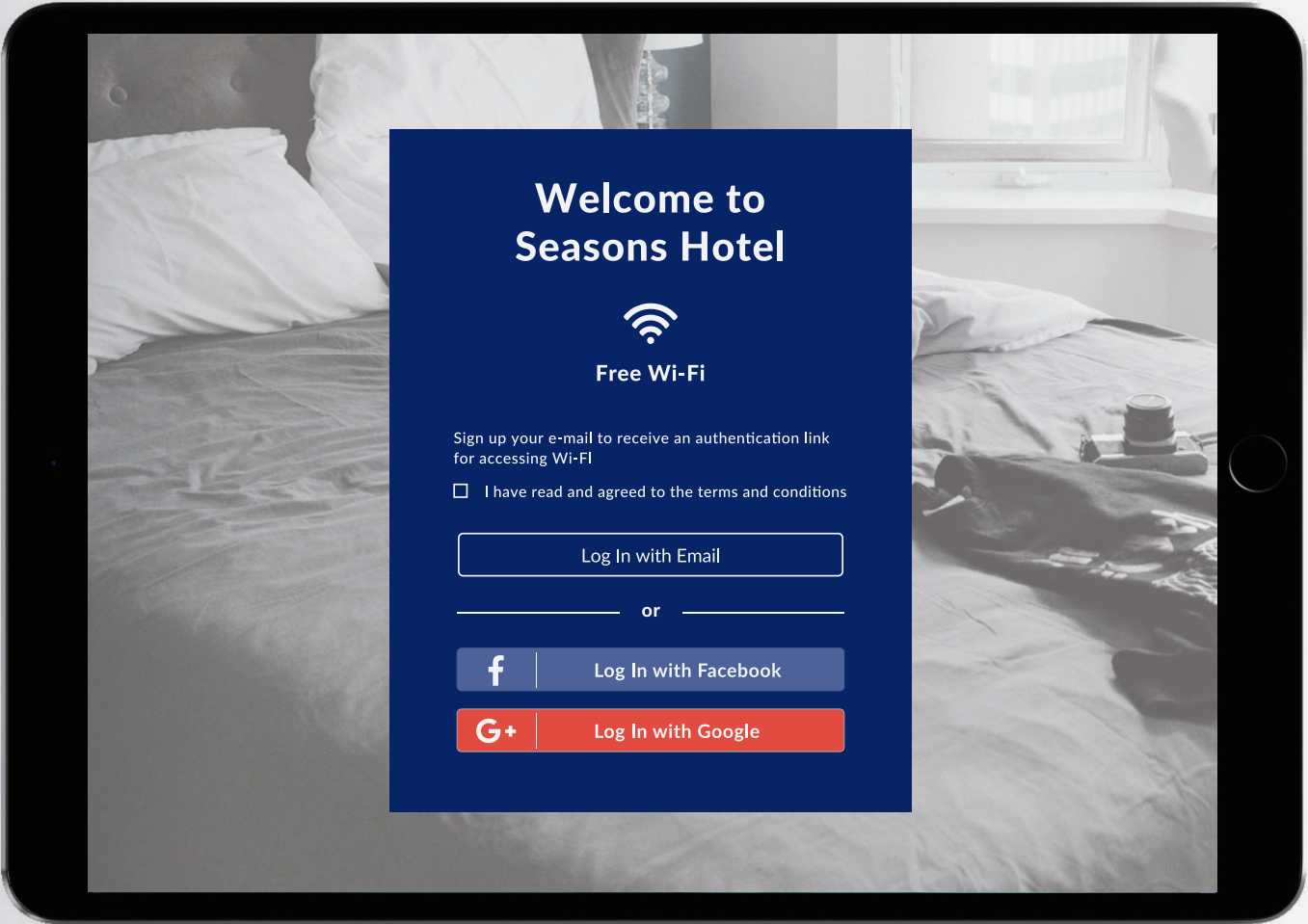


Enter Nuclias

Nuclias has the keys to help you unlock more business value from your guests. With the help of centralized managed Wi-Fi and advanced features, it helps you open up additional revenue streams, personalize the guest experience and garner positive feedback from your guests.

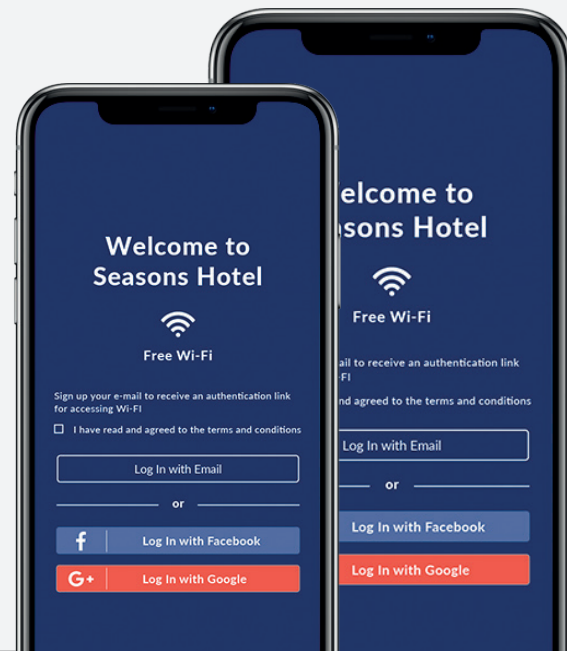
Key Solution Features

- 01. Front-Desk Ticket Functionality with Customizable Captive Portal
- 02. Walled Garden*
- 03. Location-Based Analytics
- 04. Centralized Login Management



01. Front-Desk Ticket Functionality with Customizable Captive Portal

/ If you are a small hotel or coffee shop looking to move upmarket, you need a Wi-Fi experience on par with your larger competitors. Nuclias enables easy printing of a randomly-generated Wi-Fi password on a receipt, and the creation a dedicated login screen where your business logo can be added.



-  Improved Guest Communications
-  Encourage Retention
-  Increase Reviews

02. Walled Garden*

— This feature takes the value of the captive portal a step further by creating a dedicated screen for after you have logged in, enabling cross-promotions, upselling opportunities, membership opportunities, and a lot more.

* Requires supplemental IT



03. Location-Based Analytics

— Once users are online, a variety of location-based analytics and promotions can be integrated, giving you the foundations for the long-term sustainability of your brand today.*

* Requires supplemental IT



04. Centralized Login Management

— The feature means that users, once they are logged in with a certain device, stay logged in, wherever they happen to be on the network. And Nuclias enables this capability to be extended to other locations, anywhere in the world, for as long as desired* — which means that VIPs and guest members may not need to go to the trouble of logging in again at all, at any location.

* Requires supplemental IT

Security Problems

The Hospitality Industry is now a top target for data breaches and ransomware. Abundant on-hand financial data, poorly secured POS devices, poorly secured legacy Wi-Fi and its increasing dependency on IT to carry out mission-critical tasks allow many tangents for attack.

91% of guests also stated they would be more likely to trust a company who can actively show their commitment to protecting their information (source: Salesforce.com). Not only are finances immediate at stake, but you risk long term damage to your brand.



Enter Nuclias

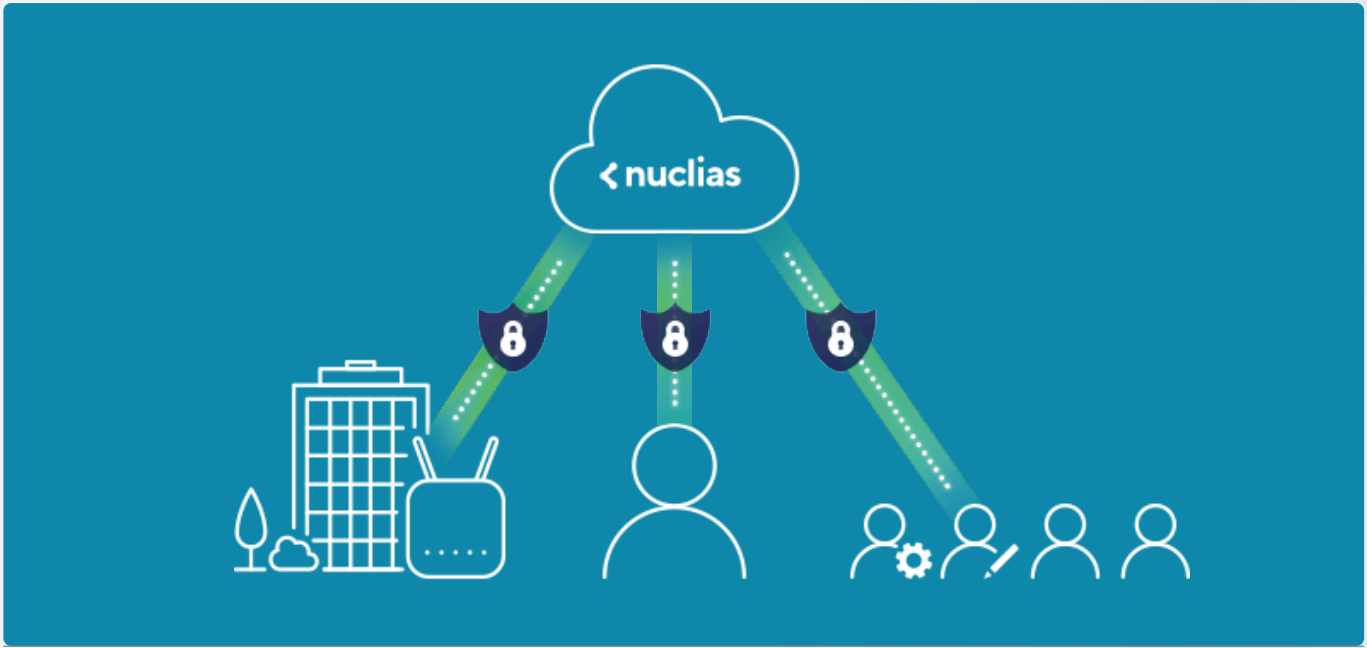
There is no such thing as 100% security when it comes to IT, but Nuclias makes it harder for bad actors to get on your network, utilize your network, or derive any value from what they find there – eliminating what was once a massive weakness in your IT integrity.

Key Solution Features

01. Network Transparency
02. Robust Encryption
03. Whitelist/Blacklist
04. Tiered Access
05. Application Control

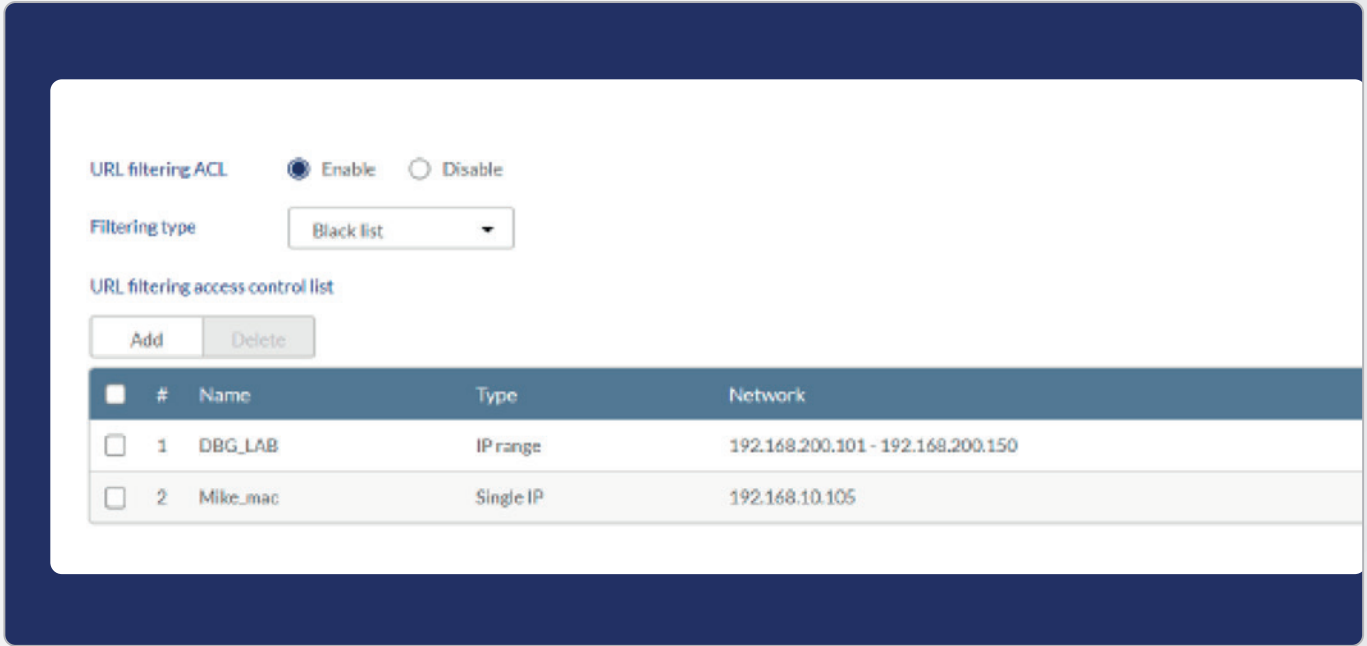


01. **Network Transparency** / The ability to see what is happening on your network is a major security advantage, as bad actors often create anomalous traffic patterns that are easy to spot, and can even add additional APs (Rogue APs) that can utilize your network without authorization. But Nuclias has functions that can spot Rogue APs, and illustrate your traffic intuitively, making it easy to identify what does not belong.



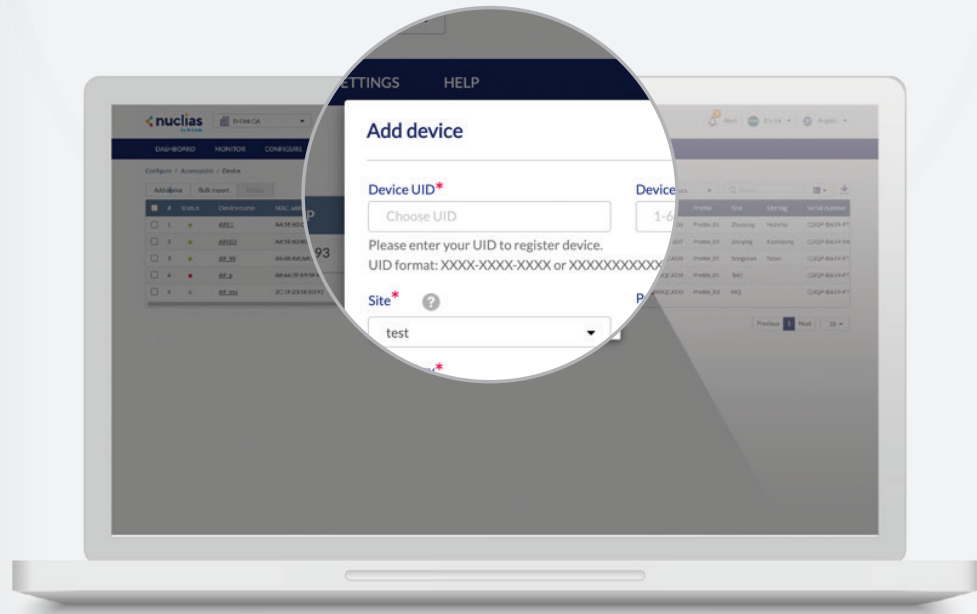
02. **Robust Encryption**

✓ Nuclias's robust encryption capabilities (up to 192-bit) go above and beyond the aging WPA2 standard in use since 2004, while adding other measures to protect your network against intrusions and attacks on the insecure passwords often found in user-brought devices (BYOD) and the IoT devices that you may be using.



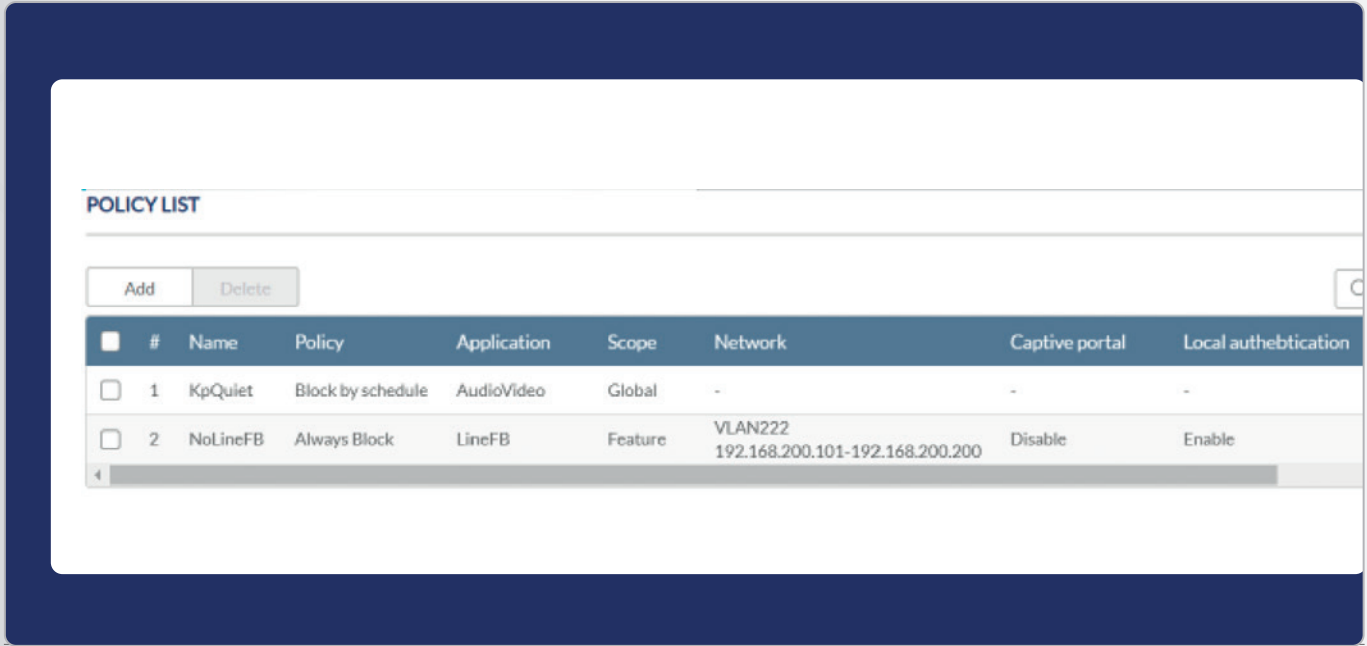
03. **Whitelist/Blacklist**

✓ This function (also known as Access Control Listing) allows Hospitality providers to limit or block access to certain websites. Not only does this prevent users from watching anything objectionable in public, and keep your own staff on task while using work equipment, it is also good security practice, as such sites often harbor malware.



04. **Tiered Access**

✓ Nuclias enables the creation of separate virtual networks over the same physical network equipment, with different levels of access for each user category (visitors, guests, VIPs, employees, etc.), so that each has access to what they need, and nothing more.



05. **Application Control**

✓ This feature takes data protection a step further by preventing applications (typically third-party apps downloaded onto customer- or staff-owned BYOD) from sending out or receiving unauthorized files while on your network.

Hospitality Needs Nuclias

With devices, demand, and security concerns growing for your wireless network, Hospitality brands need professional-grade solutions that can ease these concerns, affordably.

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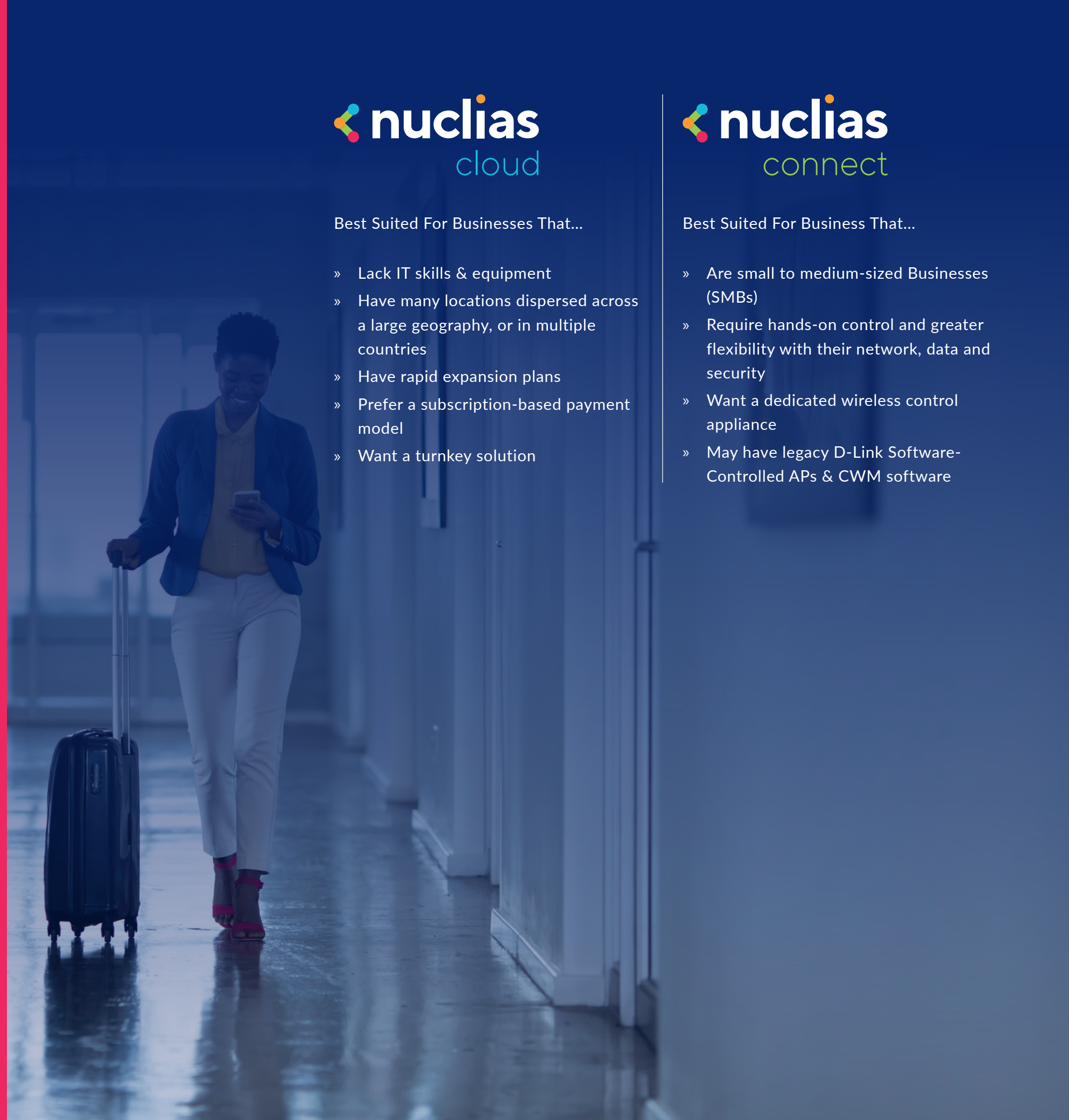
Best Suited For Businesses That...

- » Lack IT skills & equipment
- » Have many locations dispersed across a large geography, or in multiple countries
- » Have rapid expansion plans
- » Prefer a subscription-based payment model
- » Want a turnkey solution



Best Suited For Business That...

- » Are small to medium-sized Businesses (SMBs)
- » Require hands-on control and greater flexibility with their network, data and security
- » Want a dedicated wireless control appliance
- » May have legacy D-Link Software-Controlled APs & CWM software





To Learn More About Nuclias Solutions
Visit our Nuclias website
www.nuclias.com or
Contact your local D-Link representative
www.dlink.com/en/contact-us