

Auranet Business Wi-Fi Solution

Hotel / Campus





Offer The Genuine Business-Class
Wi-Fi Experience

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Auranet
EAP330



Business Wi-Fi Solutions

Hotel Wi-Fi Solution

Campus Wi-Fi Solution



Auranet

Hotel Wi-Fi Solution

Improve customers' loyalty and satisfaction with better Wi-Fi

"Wi-Fi is air" is a statement that embodies our belief that strong, stable wireless connections are of critical importance to customers in the modern world. In many industries, especially those revolving around hospitality, the ability to offer convenient connections can have a significant impact on overall customer satisfaction and ratings. Now, TP-LINK's EAP Series Business Wi-Fi Solution allows businesses build the reliable, cost-effective wireless networks that drive progress and keep customers happy.

The EAP Series Business Wi-Fi Solution incorporates EAP Series hardware, which provides a smooth, reliable wireless internet experience, and a powerful centralized management platform. The EAP Controller Software can effectively manage an entire business Wi-Fi network without requiring specialized training or a large technical staff.

Better Wi-Fi Performance, Better Hotel Experience

With industry-leading hardware design and enterprise-grade processors, EAP Series APs are capable of providing an unsurpassed Wi-Fi experience for your customers. Deploying EAP Series APs ensures that all of your guests can enjoy high-speed Wi-Fi in any part of the hotel, including the swimming pool, the fitness center, the dining area, the spa, and each individual guest room.



Swimming Pool

Fitness Center

Dining Room

SPA Center

A Powerful, Cost-Effective Wi-Fi Management Platform



TP-LINK's free EAP Controller Software makes it easy for administrators to simultaneously manage hundreds of EAPs from any PC on the network. This control even extends to APs that are located in different branches and cities, allowing them to be managed via an Internet connection.

Strong Centralized Management

EAP Controller Software allows network administrators to control, adjust, and visualize the entire network, including EAPs in remote geographic locations, making centralized management more efficient and cost-effective than ever before.

No Additional Expense

The EAP Controller Software is totally free for EAP Series customers, eliminating the need for the expensive hardware controllers that most other solutions rely on. This produces significant savings, allowing you to get the most out of your Wi-Fi budget and making your business Wi-Fi solution more cost-effective than ever before.

No Specialized Training

The web UI is exceptionally user-friendly, meaning that administrators will not need to receive any specialized training before using the EAP Controller Software. The EAP Controller Software not only eliminates the need for specialized training, it also reduces the demands placed on experienced technical staff, resulting in substantially greater efficiency.

Guest Wi-Fi with Customized Authentication Page

The powerful captive portal function makes it easy to customize the guest Wi-Fi experience. This includes establishing a unique Wi-Fi authentication page, which can display promotional or marketing content, and a voucher system, which can provide exclusive Wi-Fi and limit the duration of use for each client.



Unobtrusive Aesthetics

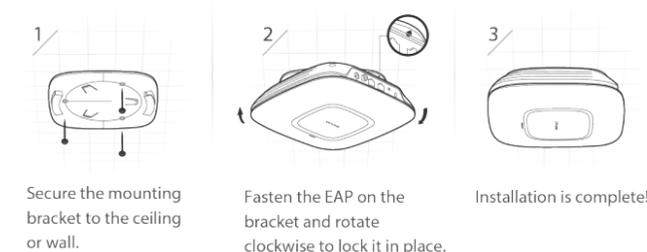


The easy-mount design allows the EAP to be easily and seamlessly affixed to any wall or ceiling surface. The incorporation of Power over Ethernet (PoE) support makes deployment both effortless and flexible. With an unobtrusive "ceiling lamp" appearance, the EAP is compatible with any decorating style and can be deployed without affecting the beauty of your interior design.

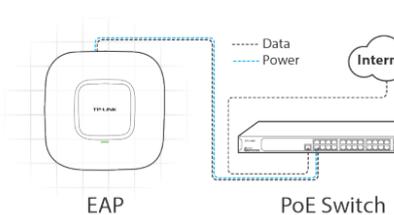
Easy-Mount Design & PoE Support - Quick, Flexible Deployment

The EAP's easy mounting design with chassis makes it easy to be integrated seamlessly into any wall or ceiling surface, and also EAP series Aps support power over Ethernet (PoE) to make deployment effortless and flexible. With the EAP's "ceiling lamp" appearance, EAPs can blend in with most interior decorations without influencing the original beautiful interior design.

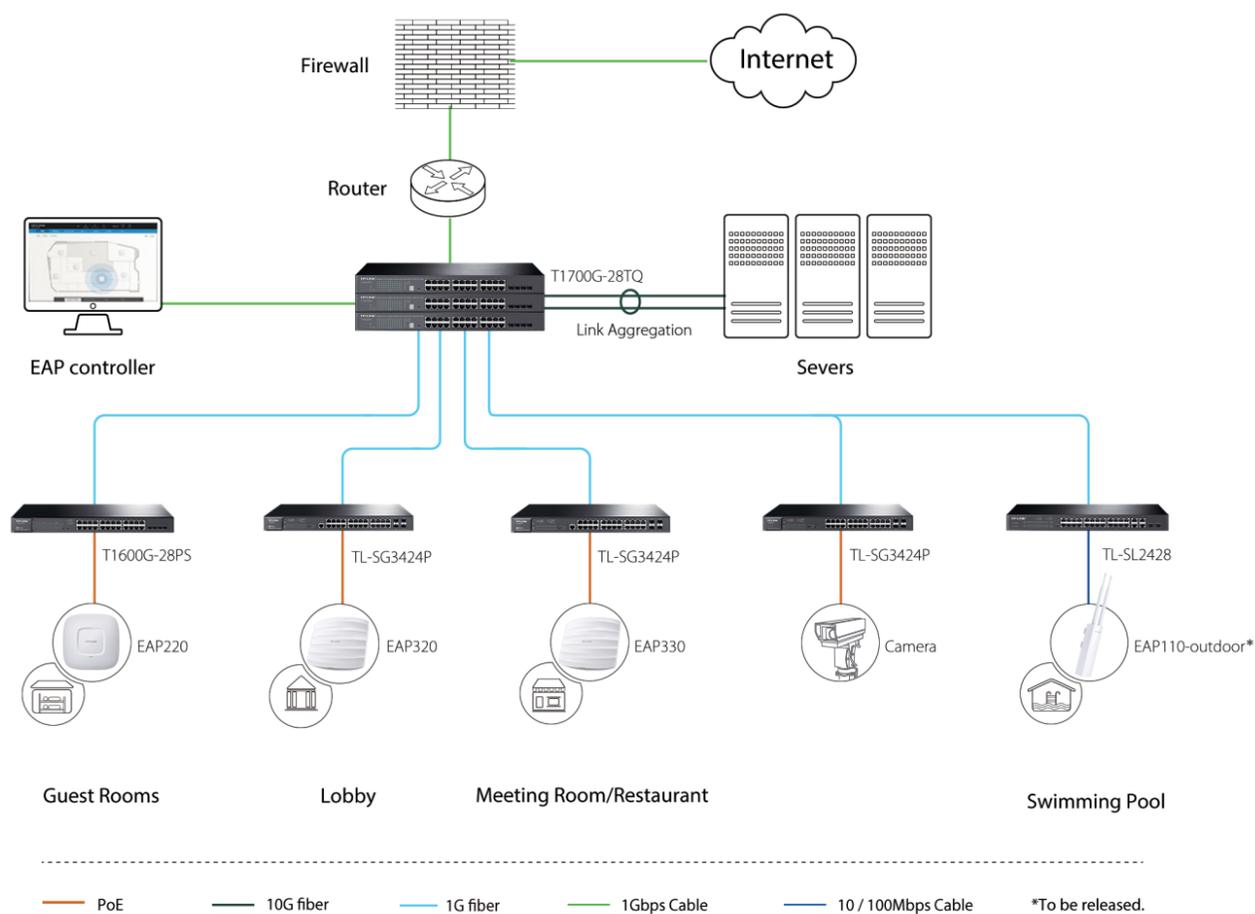
Easy installation



PoE Support (Power over Ethernet)



How to deploy your hotel network?



Auranet CAMPUS Wi-Fi Solution

Connect, Share and Stream Education

Wireless connectivity has become a necessity for modern educational institutions. A reliable, secure, and convenient connection provides students with more opportunities to access a world of information. It also allows teachers to access a wider variety of teaching resources, promoting effective learning and teaching. a

Wi-Fi Empowers Digital Education

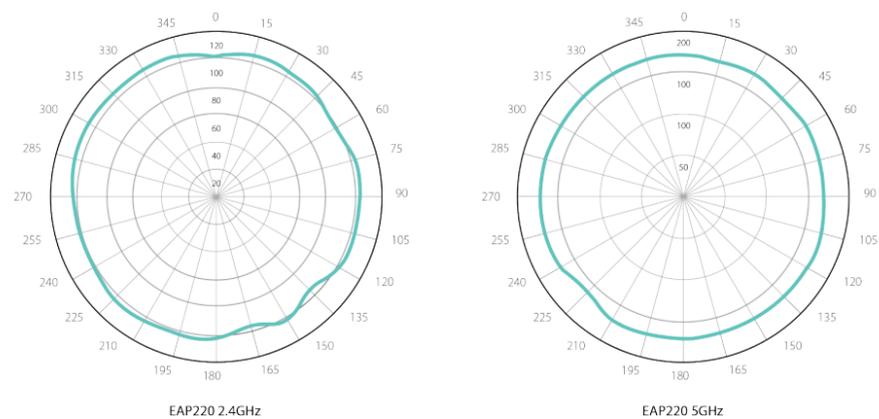


Thanks to the widespread dissemination of wireless technology, modern campuses are quickly becoming dynamic learning environments that prepare students for the workplace of the future. Digital textbooks, online homework, online libraries, and virtual classrooms enhance the teaching and learning experience. Additionally, more and more teachers and students are bringing their own devices into the classroom, fueling the mobile learning trend and underscoring the importance of a strong wireless network.

High Performance Wi-Fi for Efficient Education

Creating an effective and efficient learning environment requires a stable network that is capable of delivering excellent performance. TP-LINK's EAP Series devices are equipped with professional enterprise-level chipsets*, powerful hardware and antennas, which help them provide a strong, stable wireless signal. Now teachers and students can take full advantage of their online resources without being interrupted by latency or dropped connections.

*This does not apply to the AP110.

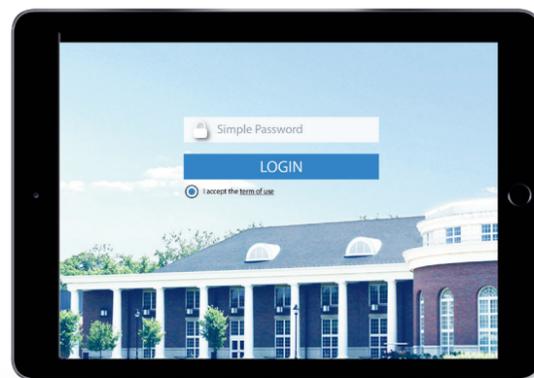


Excellent Omnidirectional Signal Performance

Illustration reflects actual performance testing of an EAP220. Circular curves represent lower levels signal fluctuation, indicating consistent wireless performance in all directions.

Robust Security Strategies for Access Control

To ensure the security of the wireless network, the EAP Solution features multiple enterprise-level network encryption algorithms, as well as 802.1X with RADIUS secure authentication and MAC filtering. TP-LINK switches also provide robust access control strategies for restricting access to the network. Additionally our captive portal gives visitors secure Wi-Fi access, personalizes their guest Wi-Fi authentication, and provides an ideal space for promoting campus events, services, and amenities.



Secure, Personalized Access for Individual Users

Multiple SSIDs and the VLAN function help to personalize the network experience for staff members, students, and visitors by enforcing specialized access policies that protect all private and sensitive data.



Easy Centralized Management

TP-LINK's free EAP Controller Software makes management easy by providing the network administrator with centralized configuration options and real-time monitoring capabilities. No special training or maintenance is required, which helps keep management costs low. Expanding the network is as simple as adding more EAPs, thanks to the high degree of scalability offered by the EAP Controller Software.



Flexible Deployment



The EAP's easy-mount design makes it easy to install on any wall or ceiling surface. EAP Series APs also support Power over Ethernet (PoE), making deployment effortless and flexible.

Easy Installation

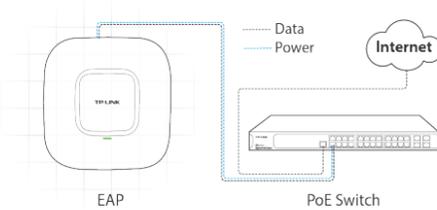


Secure the mounting bracket to the ceiling or wall.

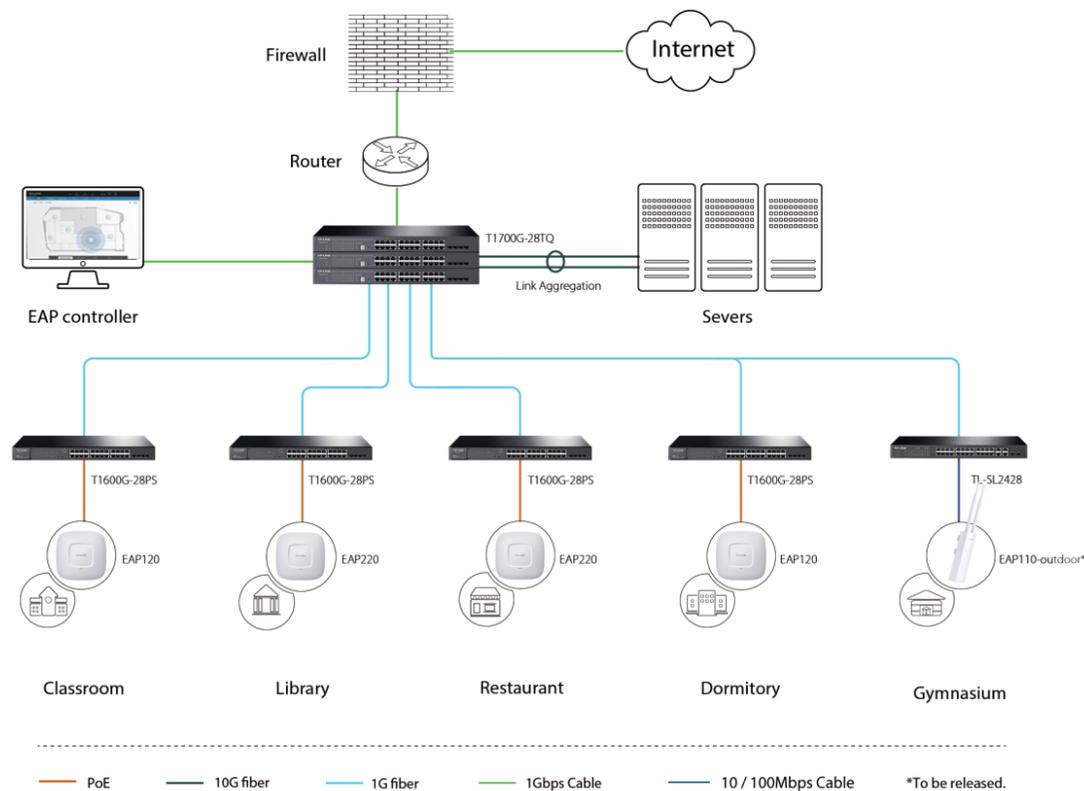
Fasten the EAP on the bracket and rotate clockwise to lock it in place.

Installation is complete!

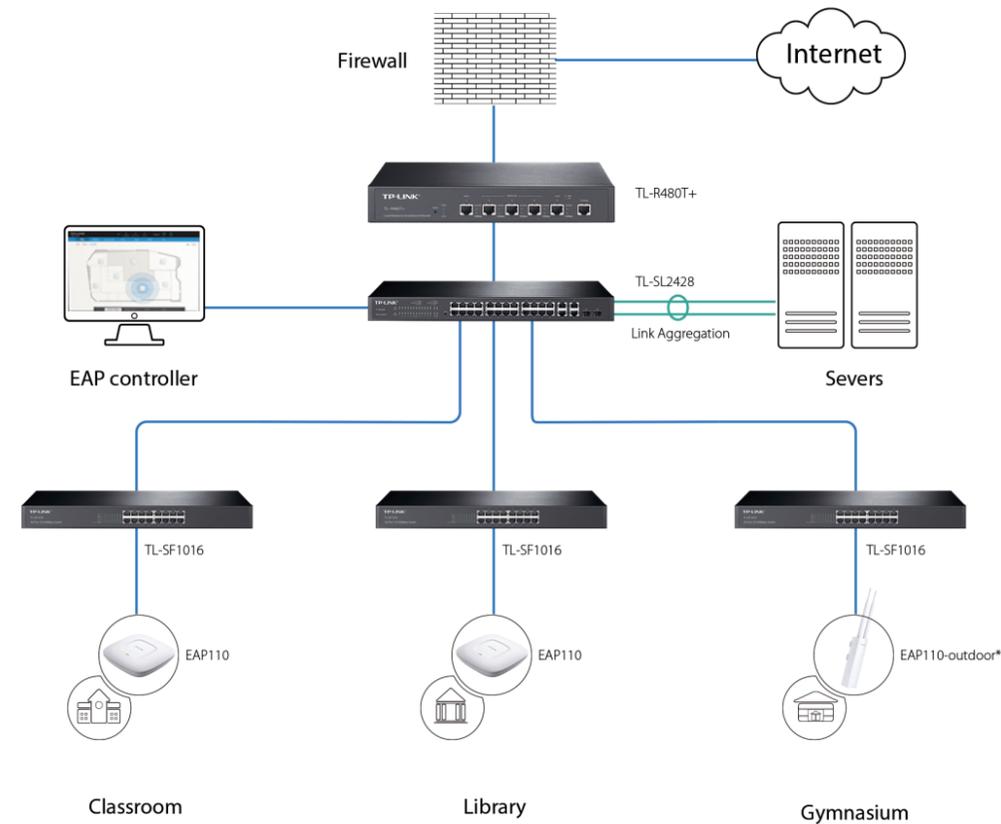
PoE Support (Power over Ethernet)



General Solution



Cost-effective Solution



Product Guide for the Solution

Auranet
EAPs for Business WLAN Solution

Which TP-LINK EAP is right for you?					
Model	Auranet EAP330	Auranet EAP320	Auranet EAP220	Auranet EAP120	Auranet EAP110
Product Name	AC1200 Wireless Dual Band Gigabit Access Point	AC1200 Wireless Dual Band Gigabit Access Point	N600 Wireless Dual Band Gigabit Access Point	300Mbps Wireless N Gigabit Access Point	300Mbps Wireless N Access Point
Wireless Throughput	2.4GHz: 600Mbps 5GHz: 1300Mbps	2.4GHz: 300Mbps 5GHz: 867Mbps	2.4GHz: 300Mbps 5GHz: 300Mbps	2.4GHz:300Mbps	2.4GHz:300Mbps
Ethernet Port	Gigabit Port*2	Gigabit Port*1	Gigabit Port*1	Gigabit Port*1	10/100Mbps Port*1
Internal Antennas	2.4GHz: 3*6dBi 5GHz: 3*7dBi	2.4GHz: 2*6dBi 5GHz: 2*7dBi	2.4GHz:2*4dBi 5GHz: 2*4dBi	2.4GHz:2*4dBi	2.4GHz:2*3dBi
PoE Mode	IEEE 802.3at	IEEE 802.3at	IEEE 802.3at	IEEE 802.3af	Passive PoE
Captive Portal	√	√	√	√	√
Airtime Fairness	√	√	√	-	-
Beamforming	√	√	√	-	-
Band Steering	√	√	√	-	-
Load Balance	√	√	√	√	√

TP-LINK PoE Switches

Model								
Product Description	JetStream 24-Port Gigabit L2 Managed PoE+ Switch with 4 Combo SFP Slots	48-Port Gigabit Smart PoE + Switch with 4 SFP Slots	24-Port Gigabit Smart PoE + Switch with 4 SFP Slots	8-Port Gigabit Smart PoE + Switch with 2 SFP Slots	24-Port 10/100Mbps + 4-Port Gigabit Smart PoE + Switch	8-Port Gigabit Desktop/Rackmount Switch with 8-Port PoE	8-Port Gigabit Desktop Switch with 4-Port PoE	8-Port 10/100Mbps Desktop Switch with 4-Port PoE
10/100/1000Mbps RJ45 Ports	24 (PoE+)	24/48/24 Gigabit	24 (PoE+)	8 Gigabit	4 Gigabit; 24 10/100Mbps	8 Gigabit	8 Gigabit	8 10/100Mbps
PoE Ports	24 (PoE+)	48 (PoE+)	24 (PoE+)	8 (PoE+)	24 10/100Mbps Ports (PoE)	8 (PoE+) Ports (PoE)	Port1~4 support PoE (PoE)	Port 1~4 support PoE
PoE Standard	802.3at/802.3af	802.3af	802.3af	802.3at/802.3af	802.3at/802.3af	802.3af	802.3af	802.3af
Gigabit SFP Ports	4 (Combo)	4	2	2 (Combo)	—	—	—	—
Console Port	1	—	—	—	—	—	—	—
PoE Power Budget	320W	384W	215W	53W	180W	124W	53W	57W
Dimensions (W x D x H)	*17.3 x 13 x 1.7 in. (440 x 330 x 44mm)*	17.3 x 8.7 x 1.7 in. (440 x 220 x 44 mm)	8.2 x 4.9 x 1.0 in (209 x 126 x 26mm)	17.3 x 8.7 x 1.7 in. (440 x 220 x 44 mm)	11.6 x 7.1 x 1.7 in. (294 x 180 x 44 mm)	*6.7 x 3.9 x 1.1in. (171 x 98 x 27mm)*	*6.7 x 3.9 x 1.1in. (171 x 98 x 27mm)*	*6.7 x 3.9 x 1.1in. (171 x 98 x 27mm)*

TP-LINK Helps Barranquilla Plaza Hotel Builds a Reliable and Efficient Network

◀ Barranquilla Plaza Hotel

Case Studies

- Barranquilla Plaza Hotel
- Patmos Aktis Suites & Spa
- Sim Lim Square
- Chase Grammar School



Company Name: **Barranquilla Plaza Hotel**

Number of Rooms: **176**

Industry: **Hotel**

Location: **Barranquilla, Colombia**

BACKGROUND

The Barranquilla Plaza Hotel– HBP is located in the most exclusive area of Barranquilla. It is close to all of the best shopping centers, restaurants, bars, designer boutiques, and clinics in the city. The hotel includes 176 guest rooms, multiple restaurants, a pool, a reception area, and a bar. The previously installed wireless network consisted of a standalone solution from another company and 80 APs.

CHALLENGE

The HBP's outdated wireless network was plagued with persistent issues, such as dropped connections, dead zones, insufficient capacity, and inconvenient network management. This prevented the network from meeting the demands of hotel guests and eventually began to have an adverse effect on the hotel's ratings in online reviews. Hotel management was also worried that the physical design of the older access points was inconsistent with the hotel's interior décor.

To address these challenges and improve the wireless experiences of guests, hotel management asked CONALCO, a leading local equipment supplier, to provide a new solution that could meet the following requirements:

- **Coverage** – The wireless network must provide coverage for the entire facility and should not contain any dead zones.
- **Reliability** – The wireless connection must be stable and reliable.
- **Capacity** – The wireless network must be capable of

providing sufficient bandwidth to all hotel guests.

- **Centralized Management** – Network management must be intuitive and efficient, allowing network administrators to easily manage and monitor the entire wireless network.
- **Aesthetic Design** – Wireless access points must blend effortlessly and naturally with the hotel's interior decor.



HBP management has expressed intense satisfaction with their newly implemented solution and 100% of the staff has reported improved internet service. TP-LINK's EAP Solution provides the reliable, high-performance wireless network that HBP and its guests demand. The centralized Wi-Fi management platform allows the HBP network administrator to effortlessly manage and monitor the entire wireless network with great efficiency. //

SOLUTION

As a TP-LINK partner, CONALCO conducted a site survey in order to evaluate the needs of the hotel's guests and the problems that would need to be addressed. They discovered that the existing network did not provide sufficient coverage and contained a number of dead zones. They also found that the signal was not sufficiently stable, frequently leading to dropped connections. CONALCO concluded that HBP could provide seamless wireless coverage for all guest rooms and facilities using 70 EAP120s and three PoE Switches (TL-SG3424P). Each PoE Switch is capable of connecting and powering up to 24 EAPs.

• Rapid Deployment

The easy-mount design allows the EAP to be easily and seamlessly affixed to any wall or ceiling surface. The incorporation of Power over Ethernet (PoE) support makes deployment effortless and flexible.

• Reliable Wireless Performance

The integrated Qualcomm Atheros 560MHz chipset allows the EAP120 to provide reliable wireless connections and expansive wireless coverage for guests and staff in every part of the hotel. High-quality hardware ensures a strong wireless signal both inside and outside of the rooms where it is deployed.

• Captive Portal – Personalized Accounts for Individual Guests

With the powerful Guest Authentication functionality, HBP was able to establish customized settings for the guest Wi-Fi network. They designed a unique authentication page and established a voucher system to limit the duration of use for each guest. The administrator also created a captive portal and

implemented unique temporary accounts for guests that reflected the number of days they would be staying at the hotel.

• Unobtrusive Aesthetics

With their unobtrusive "ceiling lamp" appearance, EAP devices were compatible with the hotel's decorating style and were deployed without affecting the beauty of the interior design.

• Cost-Effective Solutions

The TP-LINK solution offered the best value and cost-to-benefit ratio when compared to other brands, including Cisco, Ruckus, Aruba, and Ubiquiti.



Improving Guest Satisfaction and Loyalty with Great Wi-Fi

◀ Patmos Aktis Suites & Spa



Company Name: **Patmos Aktis Suites & Spa**

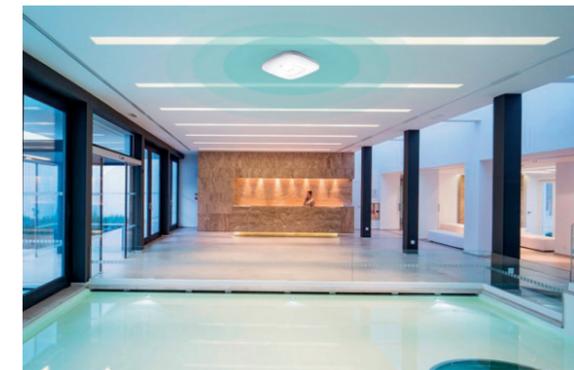
Number of Rooms: **56**

Industry: **Hotel**

Location: **Grikos Bay, Patmos Island, Greece**

BACKGROUND

Patmos Aktis Suites & Spa is a 5-star luxury hotel situated only a few steps from the most fascinating beach on Patmos Island. Patmos Aktis is a boutique hotel that offers lavish suites, exclusive spa services, spectacular dining, and an elegant bar in a unique seafront setting. Private pools and exclusive spa services complement the scenery and set your mind at ease. The hotel features a beautiful mixture of traditional architecture and contemporary aesthetics.



CHALLENGE

With its excellent service and facilities, Patmos Aktis is the perfect choice for planning and organizing business meetings, social gatherings, and cultural events. The staff provides professional service for meetings of all kinds. Wireless Internet access is undoubtedly an expectation for most guests seeking to catch up on email, search for local attractions, and use web-based voice and video chats to keep in touch with family and friends. Unfortunately, the previous Patmos Aktis network solution was outdated. Poor wireless coverage, frequent connectivity issues, weak security, and lack

of centralized management were taking their toll. The inefficient and vulnerable network ultimately had a negative impact on guest satisfaction. Patmos Aktis turned to TP-LINK for a new solution that would resolve these issues and fulfill the following demands:

- Coverage for all 56 rooms and suites - no dead zones
- Reliable connectivity
- Sufficient capacity for providing enough bandwidth to all hotel guests
- Intuitive and efficient centralized management to easily control and monitor the entire network
- Customizable authentication
- Pleasant aesthetic design that would allow the access points to blend effortlessly and naturally with the hotel's interior décor

SOLUTION

TP-LINK provided a wireless network solution that met all of the demands that were outlined by Patmos Aktis Suites and Spa Hotel. The comprehensive solution was comprised of 43 EAP access points, including 23 EAP110s, 17 EAP120s, and 3 EAP220s. TP-LINK's partner Datalab, which is based in Kos Island, implemented the total project. The solution provided:

- **Instant Installation**

The easy-mount design allows the EAP to be easily and seamlessly affixed to any wall or ceiling surface.

- **High Performance**

The integrated Qualcomm Atheros 560MHz chipset allows the EAP120 to provide reliable wireless connections and expansive wireless coverage for guests and staff in every part of the hotel. High-quality hardware ensures a strong wireless signal both inside and outside of the rooms where it is deployed.

- **Easy Centralized Management**

TP-LINK's free EAP Controller software makes management easy by providing the network administrator with centralized configuration options and real-time monitoring capabilities.

- **Guest Wi-Fi with Customized Authentication Page**

With the powerful Guest Authentication functionality, Patmos Aktis was able to establish customized settings for the guest Wi-Fi network. They designed a unique authentication page and established a voucher system to limit the duration of use for each guest. The administrator also created a captive portal and implemented unique temporary accounts for guests that reflected the number of days they would be staying at the hotel.

- **Unobtrusive Aesthetics**

With their unobtrusive "ceiling lamp" appearance, EAP devices were compatible with the hotel's decorating style and were deployed without affecting the beautiful interior design.

- **Cost-Effective Solutions**



The TP-LINK solution offered the best value and cost-to-benefit ratio when compared to other brands.

BUSINESS RESULTS

Compared with the previous solution, the TP-LINK EAP Solution delivered dramatically enhanced wireless performance and provided guests with a strong, consistent Wi-Fi signal. Guests reported great satisfaction with the wireless experience.



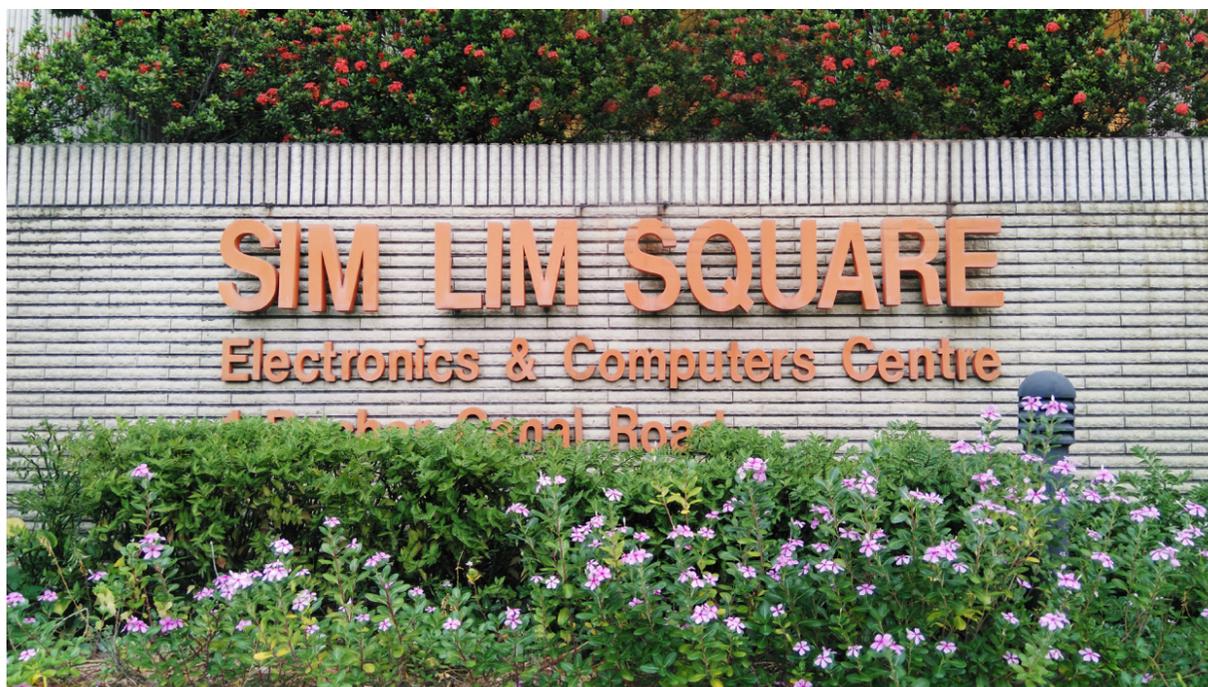
TP-LINK has helped us provide an outstanding customer experience with an affordable and easy-to-maintain system. The high-performance Wi-Fi provided the level of service that we need to keep our customers completely satisfied. I look forward to continued cooperation with TP-LINK's professional team on future projects.



Nikolaos Pouliou,
Owner of Patmos Aktis Suites & Spa

TP-LINK Helps Sim Lim Square Provide Free Public Wi-Fi for Customers

◀ Sim Lim Square



Customer Name: Sim Lim Square
 Industry: Shopping Mall
 Retailer Amounts: 500+
 Maximum Visitors one day: 10,000
 Location: Singapore

BACKGROUND

Singapore's largest IT and electronics shopping mall, Sim Lim Square, is a six-storey electronics plaza that dazzles visitors with seemingly endless rows of high tech gadgets and electronics. The mall attracts eager techies, ordinary bargain hunters, and professionals from Singapore and Malaysia.

CHALLENGE

- The Number of Visitors Creates a Huge Demand for Access in All Parts of Sim Lim Square

"The six-floor shopping mall often hosts up to 10,000 visitors per day and, at peak hours, there can be up to 1,000 shoppers in the mall. This makes us the largest IT and electronics shopping mall in Singapore," said Sean Chia. "We hope to improve the shopping experience by providing free public Wi-Fi. An ideal Wi-Fi network should cover the entire venue and provide uninterrupted Internet access, especially in core public areas."

A free public Wi-Fi solution should be capable of supporting the huge access demand that is



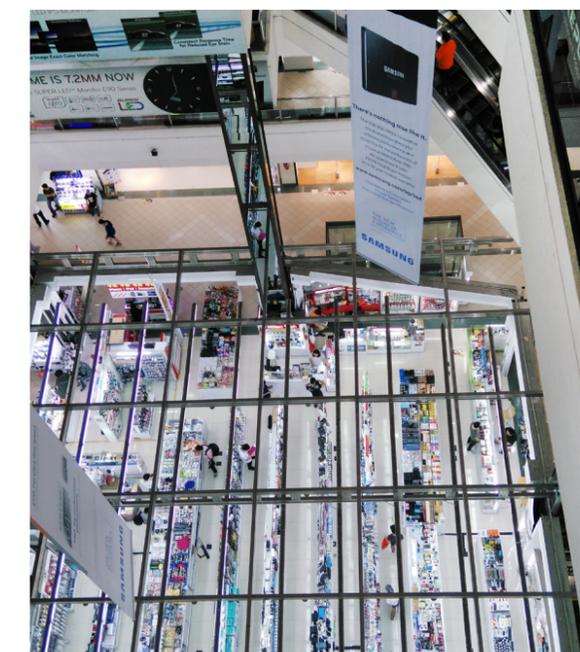
Our customers need to contact their friends, family members, and colleagues in real time to communicate suggestions and information. When they are sharing their shopping experiences online, free Wi-Fi provides a dramatic improvement. //

Sean Chia,
 HEAD of Advertising & Promotions

created by the massive number of visitors in Sim Lim Square. Each shopper should be able to enjoy a variety of demanding applications, including video chats, online video streaming, and more.

- Severe Wireless Interference Created by Hundreds of Private Wi-Fi Hotspots

"We have more than 500 retail outlets." Almost all shop owners create private Wi-Fi hotspots for themselves, which creates heavy wireless





interference in the mall. Solving the issues that arise from severe wireless interference is one of the biggest challenges when creating and deploying a free public Wi-Fi solution.

- **PoE (Power-over-Ethernet) is the Key to Easy Network Expansion**

Sean explained that PoE functionality is essential because allows the mall to expand its network, even where there are no power outlets. "Obviously, it makes sense to power our APs, IP phones, and IP cameras with PoE so that we can install them in any hard-to-reach area where they are needed," he said.

- **Lack of Technical Staff for Wireless Network Management**

Even after the Wi-Fi network is fully deployed and ready for use, wireless network management will be another critical challenge for Sim Lim Square. The mall does not have a large technical staff that can be dedicated to managing the Wi-Fi network, which means that the Wi-Fi solution should provide a free management system that is simple and easy to use.

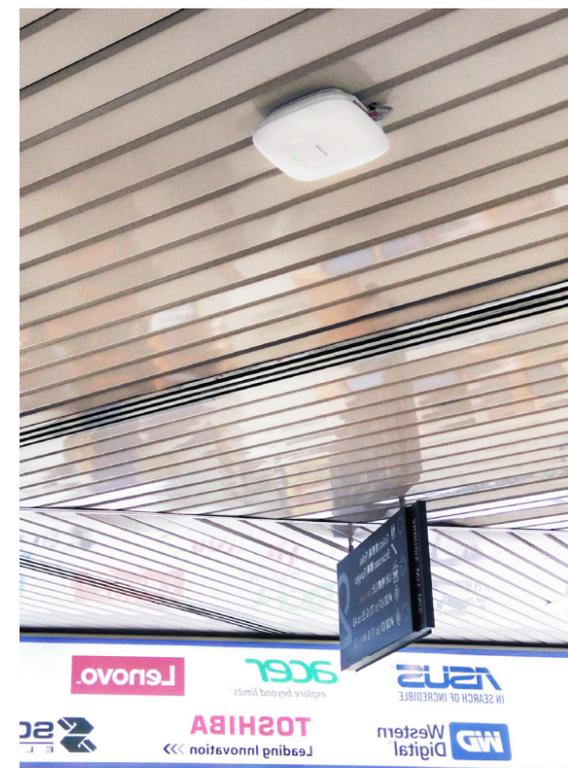
Unlike expensive hardware access controllers, the Auranet Solution from TP-LINK does not require specialized training or a large network management staff.

SOLUTION

Sim Lim Square chose the TP-LINK Auranet Business Indoor Wi-Fi Solution over numerous solutions offered by other vendors because the TP-LINK Solution satisfied all of their requirements and was significantly more cost-effective.

"Originally, we intend to choose a Cisco or Aruba solution, but both far exceeded our budget very quickly. We want a high-performance business-class Wi-Fi solution at an affordable cost. We wanted Gigabit wired speeds, dual band Wi-Fi, and advanced PoE functions for our entire network. Since the TP-LINK solution also offers a free centralized Wi-Fi management feature, that just makes it even better. What we are looking for is a true business-class solution at a lower cost." - Sean Chia

TP-LINK's site survey service included a thorough analysis of the wireless environment, the existing IT infrastructure, and the architectural structure of Sim Lim Square. The analysis revealed that the Sim Lim Square building contained numerous private Wi-Fi hotspots that created severe wireless interference. Sim Lim Square staff demanded that their new Wi-Fi network could be installed quickly and that it would be easy to manage. Considering these requirements, the report concluded that ceiling-mounted Auranet EAP220 access points and TL-SG3424P L2 Managed PoE+ Switches would provide an ideal solution.



- **Auranet Series Business Wi-Fi Solution Satisfies Huge Wi-Fi Access Demands**

To obtain the smooth business-class Wi-Fi experience in high-density user environment, 45 N600 dual band Auranet EAP220s have been deployed in the Greek Key

Architectural Structure building, while Dual band Wi-Fi avoids severe wireless interference.

"Now, our customers can enjoy free high speed Wi-Fi in every store at Sim Lim Square," Sean said. "When they are shopping, they can video chat with their friends to get useful advice, watch online reviews of the latest electronic devices, and share their shopping experience on social media."

- **PoE Switches Make Installing Ceiling-Mounted APs Easy and Flexible**

TP-LINK's JetStream L2 Managed PoE+ Switch, the TL-SG3424P, features 24 PoE+ ports. With a total power supply of 320W, the switches are powerful and flexible enough for use with ceiling-mounted access points.

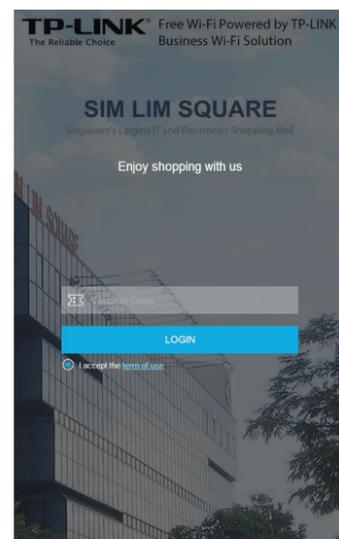
"The PoE function makes this an efficient and cost-effective choice that also eliminates the hassle of running new cables and power lines."

- **Free EAP Controller Software Provides Easy Management for the Whole Network**

"I assumed that network management for this kind of business solution would be very complicated and

require a lot of specialized training. Fortunately, I was wrong. The EAP controller software makes unified network management as simple as child’s play.” The network administrator for Sim Lim Square explained that he was surprised by how easy it was to configure and manage a unified wireless network using the EAP controller software.

“The EAP controller software is completely free, which saves us a lot of money for us. We can use this money and the money we saved on the hardware to invest in other improvements that ensure a better overall shopping experience for our guests,” Sean said.



BUSINESS RESULTS

The free public Wi-Fi earned a lot of praise from customers visiting the mall. After the Auranet EAP Solution went live at Sim Lim Square, most customers said that they were very happy to learn that the mall was offering free Wi-Fi. Management also noticed that Sim Lim Square had expanded its organic social media presence, just by offering free Internet access and making it easier for customers to share their own shopping experiences.

Sean concluded, “It is quite obvious that our customer satisfaction levels have been greatly improved since we started offering free public Wi-Fi throughout the entire mall.”

TP-LINK Helps Chase Grammar School Accelerates Learning with BYOD

◀ Chase Grammar School



Company Name: Chase Grammar School

Industry: Education

Location: Cannock, Staffordshire, England

BACKGROUND

Founded in 1879, Chase Grammar School is home to a dedicated team of teachers and administrators who are committed to nurturing children and helping them reach their full potential. With 75 teachers and support staff, 330 pupils, and class sizes of no more than 15, the school fosters a caring culture that strives to support local and overseas students from a variety of different backgrounds and cultures.

CHALLENGE

Technology is an essential part of the educational philosophy. The goal of providing access to multimedia learning makes IT infrastructure, and wireless connectivity in particular, essential to the learning process. Many teachers often access rich online content from a variety of sources, including Dropbox, TeacherTube, and YouTube to enrich their lessons and reinforce critical aspects of the curriculum. Most students use mobile devices, including laptops and tablets, to prepare homework and access the vast world of online information. The web provides countless valuable opportunities for self-driven learning, enabling pupils to be secure in their knowledge and develop the skills they need to apply their knowledge in the real world.

To improve the experience that they offered to their guests, Mary Hotel's management needed to deploy a new wireless network that met the following demands:



- **Wireless Bottleneck**

In order to take full advantage of the opportunities afforded by the modern internet, the school purchased three 70Mbps fiber optic connections.

The availability of 210Mbps of theoretical bandwidth should have been more than sufficient to meet the needs of the campus. However, the existing old wireless infrastructure and the thick, solid walls of the buildings on campus seriously limited the real world download and upload speeds that staff and students experienced. The old network provided a maximum download speed of 20Mbps, leaving plenty of room for improvement.

With 400 people on campus every day, including 130 boarding students and an additional 120 day students, each carrying an average of two connected devices, the existing infrastructure experienced a lot of strain. It was the boarders who were most affected,

as the outdated access points could only support five devices at a time. With an average of 12 students in each accommodation block, all connections would be disrupted whenever someone attempted to connect a sixth device. As a home away from home, it is essential that Chase Grammar School provide the basic necessities for its boarding students, including Wi-Fi. Foreign students in particular are heavy bandwidth consumers, regularly using VoIP solutions like Skype, FaceTime, and Google Hangouts to stay in touch with friends and family back home. This led to issues with bandwidth hogging, to the extent that some pupils struggled to load webpages before the browser timed out. This was a major cause of frustration, especially amongst students preparing for exams or trying to access past papers from websites like AQA. It also rendered the intranet, developed by the school as a one-stop revision tool, essentially useless because resources took too long to download.

- **A Safe Learning Environment**

As an essential part of the educational environment, it became clear that the wireless infrastructure and policies needed to be rethought and revamped. This provided the perfect opportunity to develop, implement, and enforce a new BYOD policy that, among other things, prohibited P2P sharing and downloading.

“You can’t underestimate the importance of rich and varied content in the learning landscape. Pupils are digital natives who thrive in a multi-media environment that relies on a stable high speed internet connection, whether it is wired or wireless,” commented Leo Li, Director for Administration at Chase Grammar School.





SOLUTION

Before investing in additional hardware, the school needed a clear picture of the existing wireless landscape. Leo therefore organized a site-wide network survey to assess the strengths and weaknesses of the wireless network. Taking advantage of the free TP-LINK site survey, Leo organized a visit from the TP-LINK Team. Within a day, the site survey team conducted a thorough analysis of the entire campus that provided a clear representation of the current signal strength and a map of the current IT infrastructure, including physical barriers.

"The TP-LINK team did a great job. They came to the school and mapped the wireless signal and current infrastructure. They were very discrete, so lessons

weren't disrupted. Then they prepared a thorough report detailing their findings and providing practical recommendations to maximize coverage and performance. It was a very valuable tool that helped me build a solid business case to secure a budget," reflected Leo.

As a result of the wireless survey and the emphasis on empowered learning, Chase Grammar School expressed a desire for a single solution that would not require too much time or resources to install and manage. Given these demands, it was determined that the TP-LINK EAP120 ceiling-mounted access points would be the ideal solution, as it is easy to install and packed with valuable features. Leo found the cluster function particularly useful, enabling him to log on to any access point to review real-time data and control the entire network. This allows him to change the settings for all network devices or roll out firmware updates efficiently.

- **Solid Infrastructure for Learning**

The EAP 120's captive portal function played a critical role in the decision making process. It supports the school's emphasis on empowered learning and BYOD. Students are required to log on to the network via an authentication page that outlines the school's internet policies, restrictions, and rules at the beginning of each session. This feature also optimizes data rates for each SSID to

maximize bandwidth efficiency across the network and ensure better Wi-Fi performance. In addition to promoting better wireless performance, it also provides an added layer of security, ensuring that only authorized students and staff can access the network.

"Kids are smart and will exploit an opportunity to download the latest films and games, it's our responsibility at Chase Grammar School to focus on the quality of education and, therefore, develop and enforce responsible Internet policies. These access points allow us to do just that," commented Leo.

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The installation was extremely straightforward. It was a simple matter of plug and play. The cluster function in particular saved me many hours configuring each access point. On a day-to-day basis I can log into the closest access point to see how the whole network is performing and make any tweaks necessary.

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BUSINESS RESULTS

After 15 EAP 120s had been deployed on campus, the results were instantaneous. The patchy 20Mbps connection had been replaced by a stable 51Mbps connection that was available throughout the campus, allowing students, teachers, and administrators to access learning resources and rich streaming content to the classroom.

FUTURE DEVELOPMENT

The next step in wireless optimization involves replacing the old switches that are currently limiting the overall network performance. Leo intends to use VLAN tagging, traffic management, bandwidth management, and QoS to control bandwidth and prevent high intensity activities such as torrenting, which affect performance for other users. To better track individual usage, Leo intends to roll out an Active Directory, giving each authorized user a unique username and password. Using Active Directory, the network administrator can identify individual users, determine how many devices they have connected to the network, and track what they are doing, which is an important step in enforcing the school's internet policies and keeping the students focused on learning. learning and BYOD. Students are required to log on to the network via an authentication page that outlines the school's internet policies, restrictions, and rules at the beginning of each session. This feature also optimizes data rates for each SSID to maximize bandwidth efficiency across the network and ensure better Wi-Fi performance. In addition to promoting better wireless performance, it also provides an added layer of security, ensuring that only authorized students and staff can access the network.

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