

Building an Advanced and Reliable Network Infrastructure for Gargano Holiday Park in Vieste

Project Scope

13 hectares, including villas within the Baia degli Aranci complex, two buildings comprising the Hotel i Melograni, a water park, and extensive green spaces.

Challenges

- The vastness of the area, both indoors and outdoors, from hill to beach;
- The heterogeneity of the accommodation solutions offered.

Customer Profile

Name: Gargano Holiday Park
Industry: Hospitality
Location: Lungomare Europa, 71019 Vieste FG, Italy

Solutions

- Omada Controller ×1
- TL-SG3428XF ×2
- TL-SG3428XMP ×49
- EAP620 HD ×3
- EAP610 ×56
- EAP615-Wall ×221
- EAP610-Outdoor ×36

Explore how Dabbicco Telecommunications implemented advanced wireless and networking infrastructure to deliver seamless coverage across Gargano Holiday Park, a sprawling and elegant resort in Vieste, Italy.

Omada L2+ Managed Switches Form the Distributed Backbones Across the Vast Park

Dabbicco divided the backbones into primary (10G over single-mode fiber 9/125) and secondary. All backbones utilize LACP to aggregate two links in Load Balancing and Failover mode. The two Full Fiber Central Switches, each with redundant power supplies and interconnected for redundancy, gather the 49 geographically distributed Omada Managed Gigabit PoE+ Switches to support the network infrastructure.

Security is managed at every level, starting with the numerous 802.1q VLANs implemented on the switches and APs. The new network infrastructure has undergone meticulous testing in the R&D area of Dabbicco, where the creation of ad-hoc configurations for Uplink, VLAN, STP, and redundancy through centralized management via Omada SDN has simplified the process.

"We are very satisfied with how the Omada devices handle intensive traffic loads. As with all of our installations, it is our practice to study on paper the overlapping of channels by manually managing power and frequencies to ensure that nothing is left to chance (out of 316 total APs, there is no value left on Auto)."

--Claudio Dabbicco, Head of IT Division and Project Manager,
Dabbicco Telecommunications S.r.l.

Omada Access Point Product Matrix Meets the Complex Scenario Requirements

Within the park, there are both the village formula, with the villas of the historic Baia degli Aranci brand, and the vertical hotel structures of Hotel i Melograni. Additionally, a stable and redundant Wi-Fi network is essential to support the continuous operation of the automation systems installed in the facility's rooms.

Dabbicco deployed 221 EAP615-Wall APs in individual apartments for optimal coverage and high performance, along with 59 Wi-Fi 6 Indoor APs in internal common areas. Notably, three EAP620 HDs were adopted to support a large number of simultaneous users in conference rooms (currently, a single HD AP has effectively managed a record number of 220 devices during an event). Additionally, 36 EAP610-Outdoor APs were installed, providing uninterrupted connectivity across the 110-hectare area.

The Omada Controller Ensures Reliable and Fast Wi-Fi Connections

for Both Guests and Hotel Staff

The Omada Controller is implemented on a virtual server with a 10G connection, performing backups every eight hours. In July 2023, it managed 7,045 unique devices and exchanged 284.7 TB of data, operating at about 40% saturation compared to peak times.

This solution ensures stable, fast Wi-Fi for guests and staff through active monitoring. Its analysis of the signal-to-noise ratio (SNR) and careful study of device positioning to avoid overlapping have optimized the AP distribution, ensuring uniform coverage and optimal performance in all areas while guaranteeing the perfect operation of over 600 IoT devices.

With the implementation of the Omada solution, Gargano Holiday Park successfully achieved reliable and uninterrupted Wi-Fi connectivity for both guests and staff. The infrastructure has been successfully tested in the past 2023 season, both by individual guests and in more complex applications dedicated to high-traffic and high-density convention.

