NETGEAR Wi-Fi Eliminates Stress for Guests, Staff at Miyako Island Resort Hotel

The entire Shigira Bayside Suite Allamanda has an "Asian resort" theme. All guest rooms are suites and a wide variety are available.

Located at the southern end of Miyako Island in Okinawa Prefecture, the grounds of Shigira Resort cover 300 hectares—the size of 70 Tokyo Domes. The facilities at this premium resort include beaches where guests can enjoy diving, sea kayaking and other marine activities, a golf course with ocean views from every hole, a jungle pool, natural open-air hot springs, and even a chapel ideal for resort weddings.

The Shigira Bayside Suite Allamanda is one of four hotels on the grounds of Shigira Resort. Designed with an "Asian resort" theme, the Allamanda boasts 173 guest rooms, all suites, in a range of styles: some have private Jacuzzis or pools, while others are cottage- or condominium-style suites.

This year, Allamanda completely rebuilt its guest Wi-Fi environment, introducing a controller-type wireless LAN system from NETGEAR. With wireless access points in every guest room and restaurant on-site, the hotel's guests now have access to trouble-free Wi-Fi service at any time.


Tetsuo Tokita, guest room manager in the Accommodation Department at the Unimat Precious Shigira Bayside Suite Resort Allamanda (left), and Yasuji Takehara, manager of Sales Group 1 in the Telecom Sales Department at Okinawa Edison. (right).

We spoke with Tetsuo Tokita, guest room manager at the Allamanda, and Yasuji Takehara of Okinawa Edison, who oversaw the introduction of the new guest Wi-Fi system as integrator, about the background to the rebuilding of the system, the factors behind their choice of a controller-type wireless LAN, and more.

Consumer Product-Based Guest Wi-Fi System Causes Stress for Staff

When the Allamanda first opened within Shigira Resort 11 years ago, all guest rooms offered Ethernet access to a network which guests could use to connect laptops and other devices they had brought with them to the Internet. However, Tokita recalls, several years ago demand for Wi-Fi rather than Ethernet access began to increase.
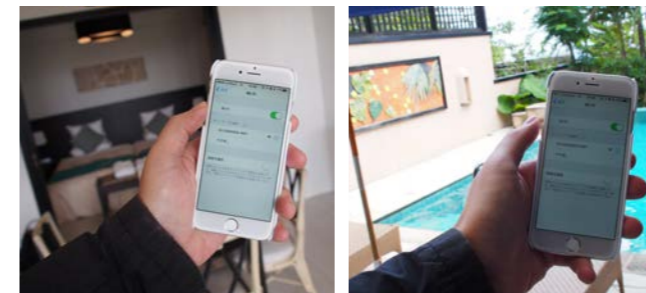
Following the implementation of the new system, guests can now use Wi-Fi not only in their rooms but also on the verandah, by the private pools, and elsewhere.

"Particularly in the past two or three years, there has been increased demand for Wi-Fi access among guests from both inside and outside Japan," says Tokita. "At this point, I think, a Wi-Fi environment is felt to be basic infrastructure on the same level as electricity or running water."

The Allamanda responded to their clientele's changing needs by introducing guest Wi-Fi service in all rooms. Portable wireless LAN routers were connected to the existing Ethernet guest network to allow guests to access it freely via Wi-Fi.

"We bought about 200 of them [portable wireless LAN routers], and the hotel staff went from room to room installing them manually," says Tokita.

A fine guest Wi-Fi network was now available—or so they thought. In fact, however, the trials of the hotel staff had just begun.

The solution Allamanda had rolled out was based on a simple consumer product—the sort of thing someone traveling on business might plug into the Ethernet port in their hotel room to create a wireless access point. With one of these installed in each of 170 guest rooms, problems arose frequently.

In July 2014, the Allamanda contacted Takehara at Okinawa Edison to discuss their situation. Summer, peak season for the hotel, had just begun.

"Looking at the first e-mail I received about the issue, it seems that complaints were coming from the guests almost daily: 'I can't connect to Wi-Fi,' 'Please move me to a room where I can connect,'" says Takehara. "They got in touch with me to ask if there was any way to resolve the problem quickly."

Okinawa Edison is headquartered in Naha and counts many of Okinawa's hotels among its customers, from resort hotels to luxury and business hotels in city centers. The Telecom Sales Department that Takehara works in has been involved in the construction and deployment of dozens of hotel network infrastructures and PBX systems.

The product deployed by the Allamanda was unstable and froze frequently, and there was no way to centrally manage the units in all of the rooms at once. If a unit froze, it had to be restarted, which meant that staff had to visit the guest room it was installed in. Aside from the extra work for staff this represented, employees going in and out of rooms with guests staying in them is hardly a desirable state of affairs for a hotel.

What's more, the existing Ethernet network itself was reportedly of very simple construction, involving layer 2 switches in cascade connection, with network loops arising in places.

However, the hotel had neither the budget nor the time to improve the guest network itself at that time. Takehara began by advising the Allamanda on what it could achieve quickly and easily: Use timer settings to reboot the Wi-Fi routers daily, unplug the cables from ports where loops were thought to be occurring, and so on.

Of course, this was only a temporary fix and did not resolve the fundamental problems. To the hotel staff, who had to traverse the sprawling hotel grounds to visit guest rooms every time difficulties arose, keeping guest Wi-Fi operational had reportedly become a heavy burden.

"Wi-Fi connection problems are stressful for guests, but in fact they were also highly stressful for the staff," says Tokita. "Time that should have been spent improving the hotel service was spent dealing with Wi-Fi troubles instead."

Okinawa Edison Surveys the Guest Wi-Fi Network's Issues and Proposes an Improvement Plan

Once the summer of 2014 was over, Allamanda had time to properly begin exploring the possibility of replacing its guest Wi-Fi environment. The hotel requested product proposals and quotations from several integrators, including Okinawa Edison, to use in its internal budget request.

The existing Ethernet guest network had been constructed not by Okinawa Edison but by another integrator. This meant that Okinawa Edison lacked an in-depth understanding of the situation at the hotel, such as how the network could be extended to reach cottages detached from the main building. So, before submitting a final proposal, Takehara decided to visit the Allamanda and survey the site.

"A convincing proposal must have a basis for what it proposes," says Takehara. "For that reason, I decided to take the approach of surveying the current situation carefully, identifying the challenges, and then proposing solutions based on that," says Takehara.

With assistance from the Allamanda, Okinawa Edison surveyed the facilities inside the hotel, the construction of the network, electromagnetic interference levels, and other issues. Discovering that a local builder who was an old friend of Takehara's happened to have been involved in the Allamanda's construction, Takehara was also able to learn about staff-only passageways that could be used to extend the network to locations detached from the main building.

Based on this survey, Okinawa Edison prepared a report containing their analysis of the current challenges faced by the Allamanda—and their causes—along with proposed solutions. Receiving the report, Tokita was pleased to find that it contained proposals not only for products but for solutions, based on the challenges they actually faced. This, he believed, would help convey the necessity of the project to the executive team who would need to approve the budget.

"Just saying to the executive team 'We want to overhaul the guest Wi-Fi, and this is the budget we'll need' wouldn't really have conveyed what we were trying to do," says Tokita, "and because we have no technical knowledge it's difficult for us to explain our reasons in detail. This report helped the executive team understand why the existing Wi-Fi devices weren't connecting and why an overhaul was necessary."

Controller-Type Wireless LAN Enables Remote Monitoring from Okinawa Island

According to Okinawa Edison, they were originally planning to propose that one commercial-grade access point capable of standalone operation be installed in each room in a configuration that allowed them to be set up and administered individually. However, that would have required the same setup procedure to be repeated over 170 times, and centralized monitoring and administration would not have been possible. That was when a sales representative from NETGEAR proposed that they deploy a controller-type wireless LAN instead.

"He explained to us that by deploying a wireless LAN controller [WC9500], we could perform batch administration of multiple compact access points developed for hotel guest rooms [WN370]," says Takehara. "The operational status of all the access points can be monitored from the controller's administration screen, which was another benefit as it meant

The wireless LAN controller administration screen. This screen is monitored remotely from Okinawa Edison's headquarters.

Schematic diagram of the Allamanda's guest Wi-Fi network (main hotel building). One WC9500 can centrally administer up to 200 access points (APs).

that we could monitor the network remotely from Okinawa Edison's headquarters."

Adopting a controller-type wireless LAN let Okinawa Edison add maintenance and support for the guest Wi-Fi environment to their proposal. When the network was operating normally, they would monitor it remotely from their headquarters in Naha on Okinawa Island. When emergency on-site work was required, staff stationed on Miyako Island would perform it.

Okinawa Edison also proposed updating the Ethernet guest network. By deploying NETGEAR Smart Switch or Unmanaged Plus Switch technology, all guest room networks can be kept separate using VLANs to prevent any loops arising. An additional floor switch supporting Power over Ethernet (PoE) is used to power all guest room access points by PoE.

"Even in the unlikely event that an access point needs to be rebooted, with PoE this can be done without entering the room, simply by disconnecting and reconnecting the cable at the switch," says Takehara.

Trouble-Free Wi-Fi Environment Lets Hotel Staff Refocus on Service

Okinawa Edison's proposal was accepted, and construction work on the new guest Wi-Fi environment began in August 2016. First, the switches making up the Ethernet guest network were replaced, followed by installation of the wireless LAN controllers. In early September, installation of access points in individual rooms began.

However, because summer is the hotel's peak season, the guest rooms remained in a state of near full occupancy. This reportedly made installation of the access points inside the rooms difficult.

"We couldn't go into a room to do work there while a guest was staying in it, and there was concern that if we went in after the room had been cleaned we would make it untidy again," says Takehara. "The only time we could install the access points was the short period between when the guest checked out and when cleaning was complete."

And so Okinawa Edison's staff consulted the checkout schedule for the rooms daily, entering room after room as soon as it was free to install access points. Over the course of

Floor switch (JGS524PE) installed behind the scenes on a guest floor. This switch powers the access points in all guest rooms on the floor via PoE.

the project, they became friendly with the cleaning staff, who sometimes let them know when a room had become empty. In the end, they were able to install access points in all 173 of the guest rooms before the end of September.

"It was only because of the cooperation of everyone involved in the work—not just us [Okinawa Edison], but also the hotel guest room and cleaning staff, local construction workers, and NETGEAR—that we were able to finish the work so quickly," says Takehara.

The new guest Wi-Fi environment was finally completed in late October 2016. In the two months between then and the reporting of this story, there have been "no complaints from guests at all," says Tokita. The hotel staff, too, are glad to be free of Wi-Fi-related stress and able to focus on their main task of service again. Going forward, it has been decided that Okinawa Edison will present a monthly report on guest Wi-Fi operational status and actual usage.
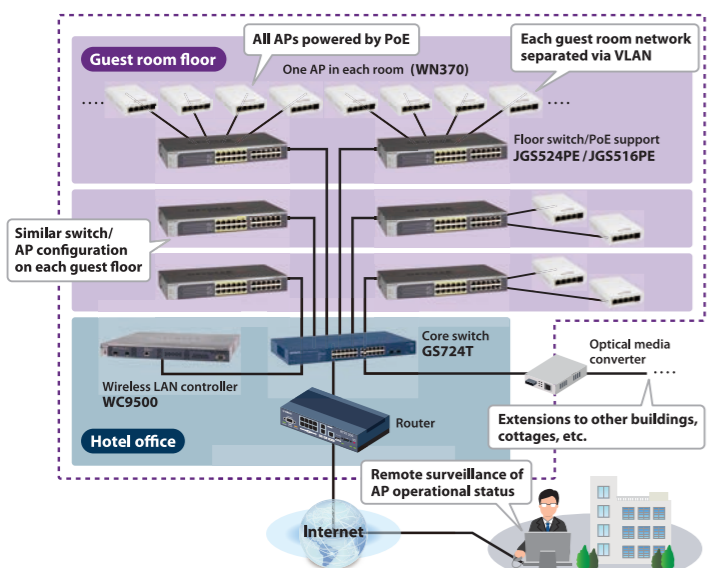
The Allamanda also has a company network with both Ethernet and Wi-Fi components, separated from the guest network. This network is presently used for company tablets and similar devices. However, because the updated guest network now has VLAN and multi-SSID functionality, in future it will be possible to merge the company network with it as well.

"The Allamanda was the first hotel within Shigira Resort to deploy a controller-style guest Wi-Fi network, and the results speak for themselves," says Tokita. "I hope to make use of this knowledge in other hotels within the resort as well," says Tokita.
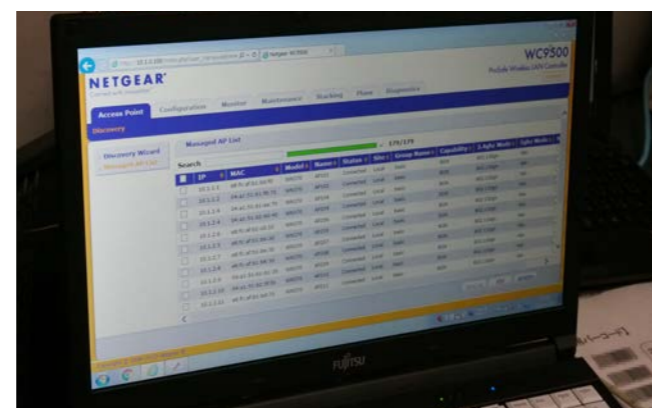
A new accommodation facility known as the "Family Lodge" is currently under construction at the Allamanda and projected to open is summer. Work on a new, fifth hotel within Shigira Resort is also underway. What sort of guest Wi-Fi network these facilities will produce is still under consideration, but the lessons of the successful deployment at the Allamanda will surely be put to good use.

"We are seeing a real increase in guests who want to use guest Wi-Fi to upload photos and things to social networking services without worrying about volume," says Tokita. The Allamanda's guest Wi-Fi is sure to prove even more useful in future as "infrastructure" supporting the fun of the Miyako Island experience.

(Source: NETGEAR)

Access points were installed in guest rooms in inconspicuous places such as underneath furniture.