IMPERIAL HOTEL, TOKYO
High-Performance Wi-Fi for an Elevated Guest Experience

RUCKUS™
an ARRIS company

IMPERIAL HOTEL
TOKYO

OVERVIEW

The Imperial Hotel has been welcoming distinguished guests from overseas since it was founded in 1890, next to the famed Rokumeikan. Today, having cultivated its place in history as a leader in the Japanese hospitality industry, its sights are now set on establishing itself as the "best international hotel." While cherishing its 120-year history, the Imperial Hotel continues to evolve—introducing new services and businesses based on its culture of "renewal in harmony with tradition."

REQUIREMENTS

- Improve the overall guest experience

- Offer consistent and high-performance Wi-Fi performance, with minimal downtime

- Enable easy and efficient management of network infrastructure

- Improve both network security and performance

SOLUTION

- Ruckus Virtual SmartZone

- Ruckus ICX switches

- Ruckus indoor and outdoor access points (APs)

BENEFITS

- Interference problems dropped to zero

- Ruckus system has led to a substantial reduction in operating costs

- Seamless roaming and a great improvement in internet speed
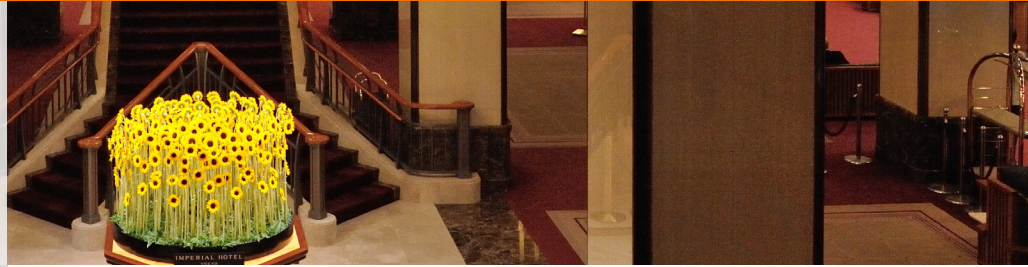
UPLIFTING THE GUEST EXPERIENCE THROUGH WI-FI NETWORK UPGRADES

With over 120 years of history, the Imperial Hotel is one of Japan's most renowned and luxurious hotels, boasting 931 rooms that accommodate 1,500 guests per day during peak periods. Including business, restaurant, and banquet visitors, over 10,000 customers pass through the doors of the hotel daily, a number comparable to that of a large enterprise. The volume of customers increases further when large international events—such as corporate board meetings and conferences—are held in Tokyo.

Mr Shinji Hanai, Director, IT Department, Imperial Hotel, Ltd., is laser-focused on the guest experience, saying, "Looking beyond the Imperial Hotel's outstanding image and luxury, our top priority is simple: A guarantee of safety and comfort for every guest."

This guiding principle allows for no exceptions—and can be observed in the rooms, services, facilities, top-class dining, and even the hotel's Wi-Fi. In addition to guest rooms, the hotel's Wi-Fi support extends to conference and exhibition facilities, banquet rooms, restaurants, lobbies, hallways, and a pool.

This breadth of Wi-Fi accessibility means that countless locations are being used daily to exchange information and conduct business. With such a high volume of confidential information being transmitted across the hotel's Wi-Fi infrastructure, providing a safe and secure environment for corporate executives and VIP guests, the system needs to guarantee an extremely high level of security.

However, despite taking steps to guard against failures, after installing a wireless LAN system the Imperial Hotel Tokyo was experiencing frequent downtimes due to equipment deterioration, switch failures, and problems with signal interference.

THE PROBLEM

Mr. Hirai reflects on the time before Ruckus was introduced, commenting, "At that time, a single AP placed in one room was also used by two adjacent rooms—three rooms on one AP. So if the AP broke down, or the customer unplugged it by mistake, the other two rooms would also lose Wi-Fi access. And if the base unit wasn't working properly, the impact extended to a whole floor or a whole building. In addition, we were offering a wireless network in addition to the wired network, so that hubs that split a single line into cable and wireless were still being used. The problem with the hubs was that they became a physical obstacle that interfered with the wireless signal.

SHINJI HANAI
Director, IT Department
Imperial Hotel, Ltd.

SEIJI HIROISHI
IT Manager, IT Department
Imperial Hotel, Ltd.

THE SOLUTION

The Imperial Hotel Osaka had earlier installed a wireless network powered by Ruckus Networks, and over time realized that the Ruckus solution delivered exceptionally high performance, so in 2017, Imperial Hotel Tokyo worked with a vendor called DOT Communications to completely overhaul its Wi-Fi network. DOT Communications was especially attractive due to its knowledge of and enthusiasm for Ruckus solutions. After about half a year of deliberation, Ruckus was chosen, and APs began to be installed between March and April 2017.

The most important point when replacing the Wi-Fi system was having products and a system structure which are not affected by other equipment in the event of an AP failure. DOT Communication proposed installing Ruckus's SMARTZONE controller on a cloud, which would improve the efficiency of network management substantially.

This countermeasure meant that even in the case of virtual controller failure, the rest of the wireless LAN network could continue functioning. Furthermore, it would now be possible to collectively manage the systems at Imperial Hotels in Tokyo, Osaka and Kamikochi.

An extremely challenging installation

Installation had to take place seamlessly to avoid interrupting Wi-Fi connections. The new Ruckus APs needed to be introduced gradually and while guests were still using the old APs.

Mr. Seiji Hiroishi, IT Manager of the IT Department reflects: "We had to install the APs on a really tight schedule, without impacting the guest experience." Installation work also took advantage of annual cleaning and maintenance around quiet periods.

A total of approximately 1,200 APs were installed throughout the hotel in guest rooms, public spaces such as lobbies and hallways, as well as large spaces such as banquet halls, employing a variety of APs for both indoor and outdoor use.

In rooms, the small and inconspicuous H510 was installed, while for banquet rooms and large suites, the R510 was chosen due to its ability to control interference while ensuring complete coverage. Designed specifically for outdoor spaces with a lot of signal congestion, the waterproof T300 was installed in the sauna and pool. Rounding out the core network infrastructure was the use of the virtual SmartZone controller, as well as the ICX 7450 and ICX 7510 switches.

Mr. Hiroishi reflects: "The smooth introduction of Ruckus products was achieved through cooperation with the IT Department and operational staff, and thanks to Dot Communication's careful planning."

RESULTS

Ruckus's system was successfully introduced at the same cost as the previous system installed six years earlier, despite the massive increase in the number of deployed APs (from 620 units to 1,200) and a shorter installation time.

One goal for this project was to eliminate Wi-Fi service failures. With APs in each room now, no longer can the failure of a single device affect other guest rooms. Furthermore, the use of Beamflex™ technology—which creates optimal antenna patterns for each device with which an AP communicates—resolves the problem of vertical wave signal inference between floors.
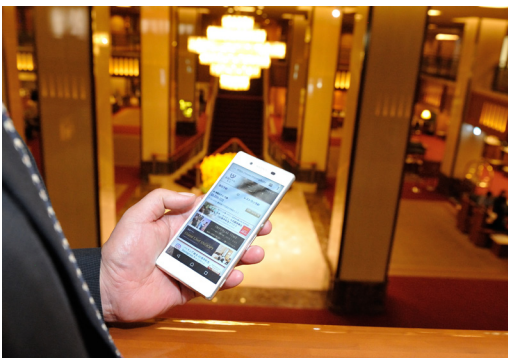
Mr. Hanai explains: "This sort of functionality means interference problems have dropped to zero, and it's possible to establish a stable connection in an environment otherwise susceptible to interference." Furthermore, the network continues to operate even if a power outage occurs.

Mr. Hanai states, "Trust in the Imperial Hotel brand—in safety and comfort—has increased even further."

Mr. Hiroishi adds, "The reduced anxiety about Wi-Fi related issues has brought a huge sense of relief."

The Ruckus system has led to a substantial reduction in operating costs. Previously, 6-7 members of the IT Department responsible for Wi-Fi spent most of their time responding to network issues. After Ruckus was introduced, enquiries are now mostly about how to use the Wi-Fi.

Notably, the introduction of Ruckus delivered some results that weren't anticipated during the decision-making process. For example, BeamFlex+™ technology transmits strong directional signals, even when remote, yielding a much smoother roaming experience and a great improvement in internet connection speed.

Another improvement point was automatic connection to 5G (where available). BeamFlex+™ technology automatically chooses the appropriate circuit (2.4G or 5G) for each device, eliminating the need for manual selection. In the past, the connection ratio between 2.4G and 5G was 9:1; today, the connection ratio of 5G exceeds that of 2.4G. As a result, users have undoubtedly experienced a significant improvement in speeds.

LOOKING TO THE FUTURE

Following the introduction of the Ruckus solution in Tokyo between autumn 2017 and January 2018, the Kamikochi Imperial Hotel upgraded to Ruckus in April 2018, and Osaka is looking into supplementing its current Ruckus system with additional infrastructure. In addition, the Imperial Hotel team will investigate using its Wi-Fi system to develop IoT-based solutions to support future hotel services and innovations. Mr. Hiroishi notes, "I want customers to feel even more comfortable with us than they do at home. Ruckus has allowed us to be in complete alignment with the Imperial Hotel brand."

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