

Background

The property management of one of the tallest A-grade office buildings in Hong Kong is looking for a wireless solution to replace its fiber system installed in its roped elevator.

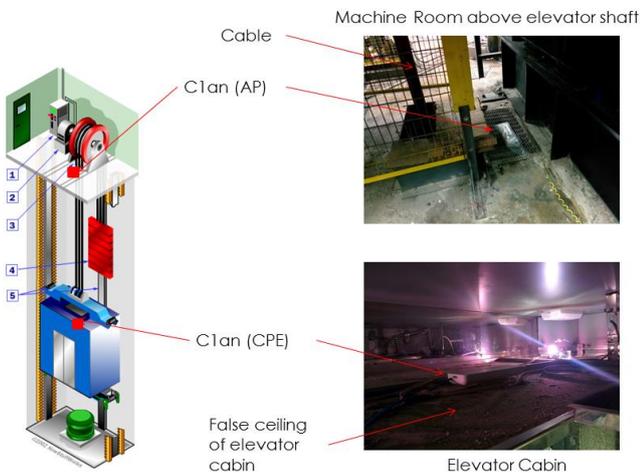
The existing system connects the elevator cabin to the local data network so that the Control Room operator can manage the CCTV camera and the LCD television inside the elevator cabin. However, the constant rolling of the fiber around the sheave induces great mechanical stress resulting in frequent repairs and high maintenance costs.

Challenges

The elevator shaft and cabin are surrounded by metal, which offers a high degree of attenuation to WiFi signals. Stable wireless access is required for connecting the client devices in the elevator while the elevator moves between floors. Another factor is the high interference incurred from the elevator motor and controller which affects wireless performance.

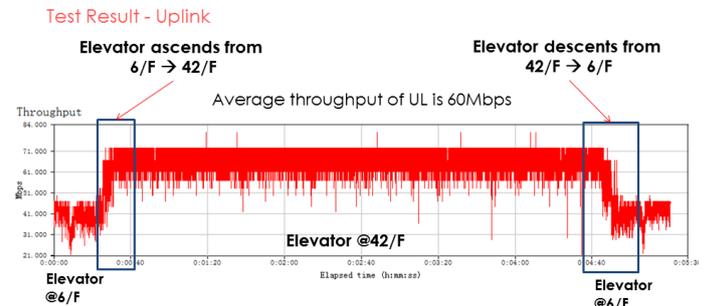
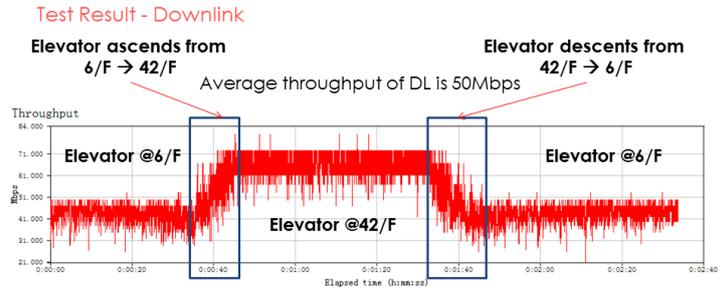
PoC Set Up

In order to maximize the WiFi signal strength, one C1an was installed as an AP at the top of the shaft with its high gain antenna pointing down the shaft while another C1an was installed above the false ceiling of the elevator cabin as a CPE.



PoC Results

The elevator cabin was moving through the elevator shaft with a maximum speed of 7m/sec throughout the test. Operating on a 5GHz channel, the test results with the C1an's showed that the strong uplink and downlink connection provided sufficient bandwidth (>50 Mbps) for their HD CCTV camera as well as HD video streaming in cabin display.



Conclusion

Despite the challenging environment, the C1an solution provided a stable connection of over 50 Mbps, suitable for high bandwidth demand applications such as HD video streaming. Its compact and lightweight design also allowed the C1an to lay flat for maximum WiFi signal strength down the shaft and to fit into the cabin ceiling.

Without complicated wiring, installation and network configurations, the Altai C1an can easily install on the false ceiling of the elevator cabin. It can replace the existing fiber system to provide strong WiFi coverage throughout the elevator shaft of this high-rise building.

The Altai C1an Super WiFi Solution is a low cost, and hassle-free wireless solution that is ideal for elevator operators to manage and maintain their quality services with significantly lower cost.

Altai at a Glance

- Founded in 2006 with headquarters in Hong Kong
- Distribution network in reaching 100 countries
- Patented smart antenna technology enabling 10X better coverage & capacity than standard AP
- Complete portfolio of indoor & outdoor products as well as cloud-based management system for carriers, WISPs, industries and enterprises
- Main market applications are mobile data offload, wireless broadband, WLAN access in private networks, and wireless backhaul

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