Grand Hyatt Rio Janeiro – Hospitality

Providing in-building and outdoor mobile network coverage & capacity

Coverage Challenges

The hospitality industry is a very broad sector including hotels, cruise ships, and anything that covers tourism and leisure.

Mobile networks connectivity is now the norm both at home and abroad. Mobile users demand and expect connectivity anytime and anywhere - even on vacations. Wireless devices are used for communications, accessing internet, social media for sharing real-time activities with family and friends, booking tour packages and transportation, online purchases, reservations and ordering food at restaurants and many other applications. All these cannot be accomplished without a robust voice/data network.

Providing an efficient mobile network is essential inside hotels and resorts. In order to facilitate fast and reliable communications with the ever-increasing demand in capacity, there is a need to minimize signal interference between different technologies during the signal combining process. Thus, reducing PIM and interference in the system between different sectors, between indoor and outdoor coverage, and ensuring high SNIR to achieve high data throughput is important.

Careful planning and systematic design methodology mitigates interference and secure network operation efficiency, leading to a superior mobile user experience.

Background

Grand Hyatt Rio Janeiro is a luxury five star hotel strategically located in front of the famous Barra beach with a spectacular view of the Atlantic Ocean, nature parks and the lagoon of Marapendi. It is a fantastic resort, both for holiday getaways and meeting location for nature lovers.

The hotel consists of 436 guestrooms, 43 suites, 1 penthouse suite, 2 presidential suites, restaurants, sports facilities, 2,000 square meters (21,530 square feet) of meeting venues for hosting businesses, social events and conferences.

Comba was awarded the project to provide a full turnkey wireless solution using active DAS for indoors and 3 sectors outdoors with camouflaged antenna to improve and extend mobile networks to nearby areas such as Barra beach and villages.

Solution

Comba's solution accommodates multi-operator (VIVO/Claro/Tim) and multi-technology networks to support CDMA 850, GSM 1800 / LTE 1800, UMTS 2100 and LTE 2600 MHz systems. Comba's multi-band - low PIM modular POI is used to combine the different systems at the front end, and active fiber optic solutions comprising Master Units (MUs) and Remote Units (RUs) are deployed in Grand Hyatt Hotel as shown in Figure 1.

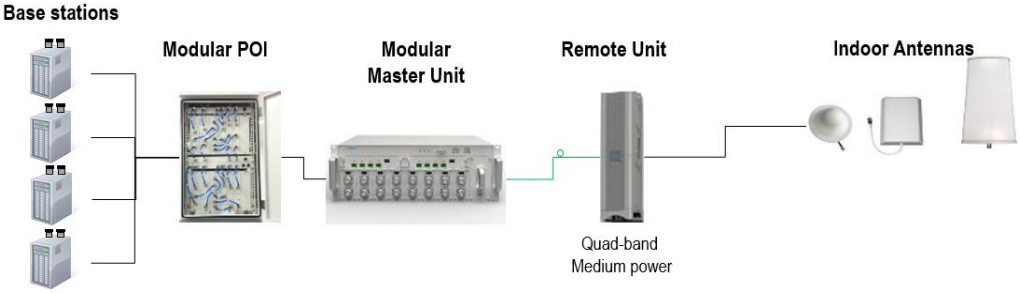

Figure 1: Connection Diagram – Grand Hyatt Hotel

Comba DAS solutions are scalable for future expansion, featuring wideband POI with frequency from 698 to 2690MHz to accommodate LTE 700MHz band. The modular active DAS solutions has the capability of upgrading LTE 2600MHz with MIMO and also performing carrier aggregation of LTE 1800MHz and 2600MHz

Note: Certain images are the copyright of the original license holders.

to increase the bandwidth of the network in order to provide high data throughput to the user on demand and to enhance user experience.

Active DAS solution with 3 sectors covers all the hotel indoor areas with 232 antennas where indoor omni-directional antennas were deployed along corridors and public access areas. All equipment and systems were hidden inside false ceillings to preserve the aesthetics of the hotel. Mounting and installation constraints were overcome with holistic planning, site surveys and testing to ensure seamless signal coverage.



In additional to the indoor system, Comba also provided a 3-sector solution for outdoor environments using camouflaged tri-band antennas located on the roof of the hotel.




Equipment

ComFlex-4500-Series MU & RU


Site Photos

Installed Master Unit

Installed Remote Unit


Product Features

--ComFlex is an award-winning DAS designed for multi-operator & multi-technology in-building wireless systems. The Remote Unit is IP30 with zero noise, convection cooling chassis.

--Comba provides one of the most efficient and compact Remote Unit, for space restricted / site limited installations. Any downtime is minimized with redundant power amplifiers & power supply units.

--User friendly web GUI supports remote monitoring and control of all different models / types of Comba's System Components, inside the equipment closet.

Comba
Enhancing Communications

LinkedIn