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There is a strong business case for deploying fiber to the office in hotels

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Hotels have a fundamental need to keep guests satisfied and provide them with the facilities and services that they value. However, the hotel sector faces challenges from new competitors such as Airbnb. In this context, the deployment of fiber to the office (FTTO) for the hotel sector can bring multiple benefits and allow hotels to both reduce costs and improve revenue; for instance, by improving room occupancy rates.

FTTO can deliver cost-saving benefits for hotels

Hotels must consider the costs of both installing and maintaining their network solutions. FTTO offers important benefits versus traditional copper-based local area networks (LANs) in terms of cost-effective bandwidth upgrades, the ability to deliver multiple services, and lower energy consumption.

- **Cost-effective bandwidth upgrades:** Bandwidth requirements in hotels are likely to be high as many guests will be accessing the internet simultaneously, particularly during evening hours when guests are in their hotel rooms, and they will also expect high-speed internet access. In addition, hotels catering to business guests will need to provide fiber to the desktop for applications such as HD videoconferencing. FTTO is much better placed to meet these bandwidth demands than traditional copper-based LAN solutions. One challenge for traditional copper-based LANs is that physical cabling needs to be upgraded to offer the fastest speeds. This implies considerable spending on new cabling, which may potentially need to be upgraded every seven years or so as hotel guests' bandwidth demands increase over time. In contrast, FTTO deployments can use new PON technologies, which means the hotel can continue to use the same optical fiber cabling for around 30 years, even as bandwidth is increased.
- **Ability to support multiple services**: Both capex and opex can be lowered because an FTTO network in a hotel will be capable of delivering multiple services, which eliminates the need to build and maintain multiple networks. The FTTO network can support TV services to guest rooms as well as voice and data services, including Wi-Fi access point backhaul. For example, the Temptation Resort in Cancun Mexico became the first hotel in the city to offer guests all-interactive IPTV

services after deploying an FTTO network. Furthermore, the FTTO network can be used for IoT-type applications such as hotel security cameras. By way of example, the Amber House Hotel Hangzhou in China has deployed an FTTO network that supports more than 10 services.

- **Lower energy consumption**: Sustainability is also an increasing priority in the hotel sector. For instance, Hotel Kapok, a Chinese boutique business hotel chain, views sustainability as an important part of its network strategy, and this is well matched with its deployment of FTTO. Energy consumption in hotels is sizeable and the fact that all guest rooms will need to be provided with connectivity means that energy consumption from traditional copper-based LANs will be high. This in turn means that there is substantial scope for energy savings from deploying FTTO. The use of FTTO can deliver significant carbon emission reductions of around 60%.

Hotels deploying FTTO stand to benefit from increased revenue

A deployment of FTTO can help a hotel generate additional revenue in multiple ways; for instance, by improving room occupancy rates. This additional revenue can help justify the expense of installing a new FTTO network.

- **FTTO provides better quality connectivity:** The importance of good quality Wi-Fi connectivity in guests' choice of hotel is growing. In order to attract higher-value guests, hotels will need to provide optimal quality Wi-Fi. One indication of this is that "free Wi-Fi" is included as one of the seven categories for which users of the website Booking.com can rank their hotel stay. If hotels are able to attract better reviews because they have better quality connectivity, then this will increase occupancy rates and allow the hotel to charge higher room rates.

- **FTTO offers the highest speeds with the least disruption and aesthetic impact for hotel guests:** FTTO also comes into its own with its ability to offer the fastest speeds easily and conveniently. FTTO offers the benefits of easy upgrades to 50G PON with up to 50Gbps of shared capacity. Upgrades to 50G PON can easily be accomplished by changing only the OLT and ONU hardware rather than having to alter the physical cabling, as would be necessary if using a copper-based LAN. The requirement with copper-based LANs to replace cabling in order to upgrade bandwidth is highly problematic in the hotel sector, since it would cause disruption and noise for guests, and also means potential lost revenue when rooms need to be closed to install the new cabling. In addition, FTTO networks are based on a PON point-to-multipoint architecture, whereby one fiber is split to cover multiple end points. Traditional copper-based LANs run a separate cable all the way to each end point and this means that they require considerably more cabling, which makes it more challenging to make the hotel decoration attractive. Ensuring that the hotel is well decorated is again important for attracting guests.

- **FTTO provides hotels with more space to offer more facilities for guests:** Traditional copper-based LANs can only provide their maximum speeds at distances of up to 100 meters, which then drives the need for more communications rooms. FTTO solutions require only around a tenth of the space of traditional copper-based LAN solutions. The lower space requirements for FTTO compared to traditional copper-based LANs are then significant because hotels can create more guest rooms, or even additional facilities such as a gym or conference room, with the extra space and thereby generate additional revenue. Furthermore, the greater reach of FTTO means that hotels have more flexibility in terms of their layout compared to using traditional copper-based LANs, and this could help make the hotel more aesthetically appealing and therefore more attractive to potential guests.

- **FTTO offers green credentials:** FTTO networks are a greener solution than traditional copper-based LANs because they consume less energy. This is important because it could form part of a strategy for a hotel to promote its sustainability credentials. Sustainability is becoming an increasingly important factor in guests' hotel choices, and sustainability rankings are starting to appear on hotel booking websites. Booking.com gives hotels a "Travel Sustainable" score from levels 1 to 3, for example. In addition, in its 2022 research "Travelers' interest in sustainable tourism options increases," Expedia.com indicates that 90% of respondents look for sustainable options when travelling.

Appendix

Further reading

Expedia Group Media Solutions, "Travelers' interest in sustainable tourism options increases," Expedia (retrieved January 2024)

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