



“Providing reliable on-demand video, broadband internet access and IP telephony to 500 suites across a vast site makes big demands on the network, especially the backbone. Added to this, there is the traffic from many other business and safety critical systems using the network.”

Jorge Herrera,
Territory Sales Manager, Mexico, CommScope

CommScope Network Infrastructure Adds to Luxury at Grand Velas Riviera Maya Spa Resort

SYSTIMAX® GigaSPEED® XL and TeraSPEED® Solutions support multi-Purpose converged network

The Riviera Maya Resort, close to Playa del Carmen on the Caribbean Sea is the newest addition to the Grand Velas portfolio of hotels in Mexico. From the early stages of planning, the new facility was designed to set new standards of luxury and customer service by making full use of advanced technology.

Systems were specified to deliver state-of-the-art guest entertainment to the resort's 492 suites as well as ensuring efficient hotel administration and responsive service. To support all its systems on a single network, Grand Velas chose infrastructure supplied by CommScope and installed by Mexicana de Telecomunicaciones.

The backbone of the network spanning the resort's 86 hectare site is a 96-fiber SYSTIMAX® TeraSPEED® cable. This provides the bandwidth needed for video on demand in all the suites and supports wireless access points for broadband internet access.

TeraSPEED singlemode fiber operates over the entire wavelength range from 1280nm to 1625nm. As a result, its useable bandwidth is 50 percent more than conventional singlemode fiber, supporting up to 16 channels of CWDM (Coarse Wave Division Multiplexing). As many as 400 channels of DWDM (Dense Wave Division Multiplexing) can be supported.

Together with SYSTIMAX GigaSPEED® XL UTP (unshielded twisted pair) horizontal cabling, the TeraSPEED fiber backbone supports nine converged IT systems. It also has the capacity to connect future applications to further enhance the customer experience.

Other requirements for the network infrastructure included conformance with standards set by the TIA (Telecommunications Industry Association) and NFPA (National Fire Protections Association). Together with strong warranties, conformance with international standards gave confidence that the network would meet all future needs.

In total, Mexicana de Telecomunicaciones, a CommScope Prestige BusinessPartner, installed more than 300km of GigaSPEED XL copper cabling. This easily meets the full specifications of the Category 6/Class E cabling standards from end-to-end in 100m connections. The cabling now links 4,000 outlets in suites, meeting areas and offices to communications rooms in each of the resort's 23 main buildings.

Before cabling installation began, Mexicana de Telecomunicaciones completed the design and planning of the network working closely with CommScope. "The Grand Velas' architectural concept demanded careful attention to the environment, the distances between buildings and installation schedules." said Agustin Topete, Engineer and Director of Mexicana de Telecomunicaciones "Coordination with other contractors was also critical since construction of 23 separate buildings was in progress at the same time."

During the installation, up to 40 people were working on the network. Deliveries of cabling and patching equipment were managed by CommScope distributor, Anixter de Mexico, ensuring the team's progress was never delayed by shortages.

Technical challenges included laying backbone cables underground across the whole site. The central computer room in the convention center is nearly three kilometers from some on the beach-side suites. To accommodate this, over 100 km of channels and pipes had to be dug and laid to carry the network infrastructure.

Innovative network applications supported by the infrastructure include SIP-based IP Telephony and Video On Demand services. Several safety critical applications, including smoke detection and video security surveillance also use the TeraSPEED fiber backbone.

The backbone, as part of the complete end-to-end SYSTIMAX infrastructure, now benefits from the CommScope 20-year warranty and application assurances. These are backed by extensive test work at CommScope Labs that ensures the specified performance will be maintained. In addition, CommScope engineers verify the quality and performance of all completed installations before the guarantees are awarded.

Commenting on the finished network infrastructure, Jorge Herrera of CommScope said:

"This was not a straightforward project – it took creative thinking and high performance solutions to meet the many challenges. Providing reliable on-demand video, broadband internet access and IP telephony to 500 suites across a vast site makes big demands on the network, especially the backbone. Added to this, there is the traffic from many other business and safety critical systems using the network.

CommScope and Mexicana de Telecomunicaciones were able to meet all these challenges with the high performance TeraSPEED and GigaSPEED XL solutions."



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CA-D-55 06/11