COMMSCOPE®

Melbourne Airport soars to new heights utilizing world-class CommScope cabling

Customer
Melbourne Airport

Country
Australia

Challenges
A critical requirement for Australia Pacific Airports Corporation (APAC) was to implement dual redundancy between two data centers. CommScope delivered.

Speed and security are crucial for a new network

A key challenge for the airport is keeping its information and communications technology (ICT) infrastructure up-to-date to support growth and changing business and regulatory requirements. To support future growth, APAC began reviewing options to make sure the Melbourne Airport infrastructure—ICT and non-ICT—could accommodate these demands over the following 5-6 years. APAC decided to build two new data centers designed to host its servers, storage, networking and associated equipment.

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Melbourne Airport is the primary aviation gateway to Australia's second-largest city. Owned by Australia Pacific Airports Corporation (APAC) Ltd., the airport hosts about 28 million passengers and more than 250,000 tons of freight per year. More than 14,000 people work within the Melbourne Airport precinct.

these two data centers. New security rules required the airport to link the data centers with each other as well as a minimum of two separate locations. These locations could be any of 200 communications rooms on the Melbourne Airport campus.
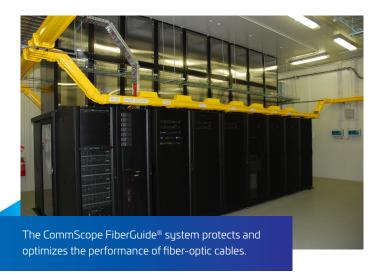
The new rules also meant cables could not follow the same path out of the data centers to prevent damage to a single cable installation crippling two connections. The rules also established tough requirements for network robustness and uptime.

Melbourne Airport needed a high-speed network that could efficiently carry multiple applications—particularly video imaging and streaming from high-security cameras around the precinct. The proliferation of network-attached devices and initiatives—such as delivering regular training to staff over the internet—had increased the load on the airport's existing 1-gigabit-per-second network and slowed response times.

"The data center project had to align with our broader corporate objectives

around service, financial performance and broader reputation," said Paul Bunker, manager, Business Systems and ICT, Melbourne Airport. "We also needed these facilities to contribute to our commitments to reduce our environmental footprint."

When it came to the cabling component of the project, the airport's requirements were simple. "We were looking for extended life with low maintenance costs," Bunker said.

The CommScope FiberGuide® system protects and optimizes the performance of fiber-optic cables.

Top quality suppliers required

The APAC board signed off on an infrastructure upgrade program that included building primary and secondary data centers and deploying a 10-gigabit-per-second network based on the Category 6_A unshielded twisted pair (UTP) cabling system. The data center plans included isolated, sterile data halls that housed all of the organization's switches and storage devices. These halls were not connected by copper to node rooms.

This allowed for electrical isolation of the communications network in the data center, and ensured that no telecommunications services were installed directly into the facility. The plans also included a need for superior structured cabling to make it easy to identify data paths into and out of the data center.

To fulfill its requirements, APAC decided to use suppliers that were experts in completing work on time, within budget and to specification. "We wanted top-quality suppliers who would provide high standards of support and problem resolution," Bunker said. "We didn't want suppliers who would waste time arguing about contract inclusions."

APAC had used independent contractors Airport Data & Electrical (AD&E) for its last large-scale Melbourne Airport networking refresh project, and enjoyed a positive outcome. Using CommScope equipment, AD&E developed a network that supported bandwidth-intensive applications such as streaming video. This equipment included fiber-optic cabling, free line-of-sight optic airspace, Category 6 HighBand® 25 patch-by-exception cabling system, patch panels, patch cords, cabling and connectors.

"We had a positive experience with both AD&E and CommScope, and had no hesitation in selecting them for this project," Bunker said.

AD&E expressed similar sentiments about partnering with CommScope again to provide cabling systems. "We had a lot of confidence in CommScope's product range and service backup," said Sean Dowsett, general manager, AD&E.

To support the APAC data center infrastructure program, AD&E deployed a multi-protocol label switching (MPLS) network based on the CommScope Category 6_A HighBand 20 patch-by-exception cabling system. This system provides a highly organized distribution area for incoming and outgoing cabling connections.

It also allows the airport to make moves, adds and changes without degrading the quality of wire terminations. "CommScope has redesigned the HighBand system to incorporate more space for cables and make them easier to trace," said Dowsett.

AD&E also selected CommScope to supply the KRONE® fiber panels and fiber cassettes used to terminate and distribute multi-fiber push-on (MPO) cables, and the Category 6_A modular patch panels used to minimize crosstalk interference between the various cables used in the network.

In addition, AD&E opted to install a CommScope FiberGuide® system to support the fiber-optic cabling component of the network. "We chose this trough-based system because it maintained the bend radius required by the cabling and had no rough edges that could damage the fibers," Dowsett said. "The system was also very adaptable, which was important as we made several changes before we settled on our final design."

"We called in support from CommScope. With their assistance, we designed and installed the networking equipment."

Sean Dowsett, General Manager, AD&E

AD&E and Melbourne Airport completed work on the secondary data center as well as its primary data center. Because both data centers were new installations, AD&E could synchronize its cabling program with the broader construction schedule. "We waited until the construction people had finished and handed us a clean environment," said Dowsett. "We called in support from CommScope. With their assistance, we designed and installed the networking equipment."

This included identifying where to put in the bends in the FiberGuide system to optimize cable performance. "The CommScope employees were extremely professional and highly skilled," Dowsett said. "They helped make the implementation component of the project seamless."

The CommScope experience and results exceeded APAC's expectations

Melbourne Airport now has an IT infrastructure that fulfills the more stringent security rules laid down by federal government agencies. These include providing redundancy by connecting each data center to the other data center, as well as two other separate locations.

The airport's network is also meeting stricter requirements for robustness and uptime. "For us, the cabling has performed exactly as anticipated, which is really positive," Bunker said. "As a key component of the data center environment, it has given us the capacity to deliver new services and support the proliferation of network-attached devices."

Currently there are over 10,000 live network endpoints across the campus. With the advent of wireless services, dependence on the reliability and performance of the trunk cable infrastructure is more critical than ever.

Wallmount patch-by-exception cross connect system for copper-to-copper connectivity.

He said the network had sufficient bandwidth to fulfill the airport's requirements for the next 5-6 years. In addition, the Category 6_A HighBand 20 patch-by-exception cabling system allows the Melbourne Airport IT team to easily install additional cable modules without undertaking any work on the cable support systems.

CommScope's post-sales support exceeded Melbourne Airport's expectation for high-quality service. Overall, airport owners are extremely impressed by the performance of CommScope and AD&E. "They have helped us build a network capable of meeting our rapidly changing, bandwidth-hungry requirements," Bunker said. "They've both been extremely professional and a pleasure to deal with."

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