

CBO Rolls Out 802.11n Network For Australia's Largest Regional Convention and Exhibition Center

AirMagnet solutions a vital component for planning, deploying and managing a WLAN designed to support more than 3,000 simultaneous Gold Coast Convention Center staff and visitors

CBO is one of Australia's leading professional services companies specializing in wireless and mobility. The company offers a variety of communication and networking systems, combined with consulting services. CBO has 24 fully certified and trained staff, and offers services across Australia and Southeast Asia. The company is headquartered in Brisbane, Australia. The **Gold Coast Convention and Exhibition Center (GCCEC)** is Australia's largest regional convention center. It includes a main arena that can hold up to 3,000 people, exhibition halls that can support more than 3,500 people, and a variety of meeting rooms with space for up to 200 people per room. The GCCEC is one of the only convention centers in Australia to provide complete wireless technology for staff and visitors.

Highlights

Industry

Solution Provider

Challenge

- Plan WLAN capable of supporting more than 3,000 simultaneous guests
- Conduct pre- and post-deployment site surveys to ensure performance and availability
- Analyze outdoor spectrum for wireless bridges and meshes

Solution



AirMagnet WiFi Analyzer PRO



AirMagnet Survey PRO



AirMagnet Spectrum Analyzer



AirMagnet Planner

"The 802.11n network that CBO designed and deployed using Cisco and AirMagnet, gives us better speed, higher performance and stronger range, truly making the facility state-of-the-art."

Nathan Wright
 Technical Services Manager, Gold Coast
 Convention and Exhibition Center

The Challenge

CBO was selected to plan, deploy and manage a massive wireless network for GCCEC. Considering the facility could easily accommodate more than 3,000 people simultaneously, performance and availability were critical elements for the wireless network. Due to the scale and scope of the project, CBO decided that the convention center was a perfect candidate for an 802.11n network.

In order to effectively deploy the 11n technology and meet the guidelines set by the convention center, CBO needed to perform comprehensive predictive WLAN modeling, conduct pre-deployment site surveys, and analyze the RF spectrum.

"Once we decided to use 11n technology for the GCCEC, we knew we could get infrastructure technology from Cisco that incorporated the new standard, but we still needed software tools that could handle the pre-deployment planning and surveying associated with an 11n rollout," said Nathan Tallack, CTO at CBO.

CBO designed the convention center network around Cisco's enterprise wireless architecture and its new 1250 802.11n APs. With state-of-the-art 11n infrastructure technology being

used, it was important that the field tools used to plan, monitor and troubleshoot the WLAN could also support the new 11n standard.

"Anytime you're dealing with a massive site that has a variety of architectural features, the planning and design stages for wireless become absolutely critical to the long-term success and performance of a network," said Tallack. "Therefore, with GCCEC, it was vital that our team use tools that could easily and accurately plan and model an 11n wireless network. We had to understand the entire environment before we actually began deploying infrastructure. To accomplish that, we needed survey, planning and spectrum analyzer tools."

In addition, CBO also needed a solution that would allow the team – once the network was deployed – to verify the performance and availability of the new 11n network in real-time. It was key to conduct regular network verification, diagnostics and troubleshooting tasks.

"Wireless can be a tricky business. You are not only dealing with technology and a unique environment, but also with users that can impact network performance. Therefore, the ability to track, monitor and troubleshoot

WLAN issues in real-time was critical to ensuring performance, availability and security at GCCEC," continued Tallack.

The AirMagnet Solution

To help plan, deploy and manage the convention center's new 802.11n wireless network, CBO utilized a variety of WLAN tools from AirMagnet.

Planning and Design

AirMagnet Planner and AirMagnet Survey were vital components for designing the GCCEC deployment. Since CBO was utilizing new 11n technology, the company needed to verify performance and availability by modeling and running WLAN simulations before actually placing infrastructure.

"The fact is, without software tools, we could not have effectively tested the new network we wanted to deploy. The products allow us to map out the environment and conduct predictive modeling that incorporates real-world performance data. Since we were dealing with new 11n technology, there was a bit of uncertainty as to how well it would perform and true range. Using AirMagnet solutions really did take the guess work out of the planning and design," said Tallack.

AirMagnet Survey and Planner enabled CBO to easily and accurately plan and deploy the 802.11n-based wireless network at GCCEC. AirMagnet Planner helped the company account for building materials, obstructions, access point configurations, antenna patterns, and a host of other variables to provide a reliable predictive map of Wi-Fi signal and performance. AirMagnet Survey allowed CBO to collect live signal, packet and spectrum data during site surveys. This enabled them to simulate and measure

network performance in the most scientific way possible – with the most accurate depiction of a real-world user experience – which ultimately resulted in a better performing network at the convention center.

"In a nutshell, AirMagnet Planner permits our engineers to reliably plan for a survey or deployment. AirMagnet Survey allows our engineers to document the validity of a WLAN plan or deployment scenario, and perform simulations to confirm any changes before making them," said Tallack. "The end result: with AirMagnet's tools we were able to deploy a secure, high performance 802.11n network capable of supporting more than 3,000 concurrent guests. AirMagnet contributed heavily to the design of this network in a cost- and time-effective manner."

In addition, CBO utilized AirMagnet Spectrum Analyzer to confirm any local RF interference. The product was critical for pre-deployment analysis of the local RF environment and reliable rollout of wireless coverage.

"Once outside of our facility, we encountered a variety of interference issues. AirMagnet's Spectrum Analyzer helped us proactively identify and classify sources of that interference so we could effectively complete the deployment," said Tallack.

Troubleshooting and Management

To verify the performance and availability, and to meet the ongoing demands of the convention center's new 11n network, CBO leverages AirMagnet WiFi Analyzer for day-to-day monitoring and troubleshooting. AirMagnet WiFi Analyzer is the industry's most popular mobile field tool for troubleshooting Wi-Fi networks.

The solution enables CBO staff to verify the real operation of GCCEC's deployment, and problem-solve any post-deployment issues that may arise, such as end-user complaints, security threats or other network vulnerabilities. AirMagnet WiFi Analyzer has many of the feature-rich qualities of a dedicated, policy-driven wireless LAN monitoring system.

"AirMagnet WiFi Analyzer has the perfect feature set to compliment the skills of our engineering team using the product. The software allows us to respond in real-time to any network issues that may arise and to show the GCCEC that the network is delivering the performance and availability we promised and modeled," continued Tallack.

AirMagnet WiFiAnalyzer also allows CBO to detect rogue devices and network vulnerabilities at GCCEC. In addition, CBO can set detailed security policies for the convention center as well as perform live, interactive network tests to pinpoint trouble spots. The product identifies and classifies all 802.11n devices on the network and offers an 11n Performance Toolkit that allows IT staff to completely optimize 11n technology. This ensures GCCEC gets the performance they expect out of the 11n technology that has been deployed.

"The GCCEC's goal was to provide one of the world's leading convention and exhibition centers, not only in terms of space and accommodations, but also in the underlying technology that supports the staff and visitors," said Nathan Wright, Technical Services Manager at Gold Coast Convention and Exhibition Centre. "The 802.11n network that CBO designed and deployed using Cisco and AirMagnet, gives us better speed, higher performance and stronger range, truly making the facility state-of-the-art."

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