



Cirrus Networks provides a vendor-agnostic, flexible approach to building and managing IT infrastructure.

## Case Study



# Meraki



## PERTH CONVENTION AND EXHIBITION CENTRE

# High-performance wireless network delivers on world-class exhibition facility promise.

The Perth Convention and Exhibition Centre is Western Australia's premier event destination, serving over half a million people attending conferences and exhibitions each year.

In today's exhibition environment, large venues must be capable of catering for numerous wireless devices per person. Such demand for high-capacity performance revealed the shortcomings of the center's ageing wireless infrastructure. The legacy system was pushed beyond its limits by users' relentless appetite for data consumption and could not service this need anymore.

"Our network had effectively reached the end of its life, and the consequences for us were becoming severe," says Director of Operations Jeanette Ferreria. "Recovering from frequent downtime was not only costly, but we were finding it increasingly difficult to even include IT facilities in our offers to new exhibition clients."



For the Centre, downtime was not an option. They were committed to a series of major events all of which had demanding IT requirements that could simply not be met by the current infrastructure.

After a rigorous selections process and negotiations, L7 Solutions was chosen as the preferred supplier of hardware and services.

Not only did L7 Solutions have experience in rapid deployments of such nature, they also displayed maturity in quality controls and seamless management of the project life-cycle.

L7 Solutions determined that in order to meet the growing demand for services, the Centre would need a fully redundant network with a 10Gb/s backbone and high-density wireless coverage, capable of catering for over ten thousand connected devices.

Both indoor and outdoor areas would require coverage.

The new technology had to co-exist with the surrounding radio networks at Elizabeth Quay and the Transperth bus port, whilst maintaining architectural aesthetics for the theatre, ballroom and building facade.

As the Centre could potentially need to cater for unusually large or complex technology requests, a flexible architecture would be mandatory to allow for on-demand increase to network capacity.

Finally, the solution would incorporate facilities for automated billing, custom event branding and smart reporting consistent with a state of the art facility capable of meeting the technology demands of the twenty first century.

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## A seamless transition in weeks

Projects of this size and complexity can take up to months before completion, ensuring legacy systems are appropriately decommissioned and the new infrastructure robustly installed.

However, L7 Solutions had undergone a thorough discovery process which involved not only an infrastructure audit, but also an exercise where business-as-usual activities by staff were observed. This enabled L7 Solutions to execute a seamless transition within weeks.

As the operational environment did not allow for any down-time during or between events, a unique solution had to be found to accommodate changes. The L7 Solutions team therefore established a standard operating environment and efficient change management program to ensure every modification would be assured and tracked.

At each deployment milestone, the team carried out rigorous and extensive testing supported by a dedicated technical architect to ensure reliable performance in-time for the next event.

The Centre's wireless system was replaced with new hardware within three days. The ensuing two weeks saw the replacement of the entire network infrastructure including the phone system, with little to no business impact.

## Planning for unique challenges and constraints

Replacing a legacy system is never easy, and this project encountered its share of setbacks. The project team discovered that the Centre's pre-existing fibre optic network could not sustain the required 10Gb/s throughput.

New infrastructure would need to be commissioned, introducing new time pressures to the schedule. During implementation, the Centre's decade-old billing system expired, demanding immediate replacement with a current-generation platform to prevent business downtime and event disruption.

With the new network finally in place, the project team received unexpected reports of issues with legacy systems previously thought inert. The newfound ability to monitor the Centre's facilities had uncovered new requirements for the ATM, CCTV and digital signage systems. Within days, these systems were migrated to the new infrastructure, enabling effective monitoring and management for the first time.

L7 Solutions assigned a dedicated professional service team, comprised of senior engineers and project leaders, who worked in collaboration with the Centre's in-house personnel. The Centre's Director of Operations and CEO provided prompt input for critical decisions at key moments throughout the project.

Maintenance officers were on hand to support the L7 Solutions team on issues falling beyond the jurisdiction of external service providers. This co-operative approach ensured fast, efficient completion of a complex and high-profile project.

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Following project completion, L7 Solutions produced extensive documentation showcasing the capabilities of the new system. These would become part of the marketing literature presented to new exhibitors, explaining how the Centre's new technology can address their requirements.



## Selecting technology for carrier class service

As a high-profile event venue, the Centre would need a carrier grade service, providing web-based applications and cloud-based systems, supportive of streaming video and voice to allow exhibitors to connect with international audiences. Technology selection was based on an optimal balance of price, capability, scalability and ease of maintenance.

Both hardware and software were to compliment how the Centre operates and grows. The new wireless solution utilises the state-of-the-art Cisco Meraki architecture to create a secure and reliable cloud managed wireless network capable of supporting high concurrent loads.



With over one hundred and ten Meraki MR access points, each strategically placed for aesthetics and broadcasting capability both indoors and outside, the venue facilities now support thousands of concurrent connected devices, with the ability to scale on demand to accommodate any bottlenecks in performance.

With technology this robust, backed by a fail-safe UPS connection, the new network can deliver on its promise of 99.99% uptime - <https://meraki.cisco.com/trust>.

A new billing system automatically manages guest internet access, generating and activating individual connections without the need for manual intervention by Centre staff.

Deep visibility into real-time client and device data allow the Centre's on-site technicians to troubleshoot any problems that may arise, enabling a rapid response to technical emergencies during events.

The Centre can now generate forensic and analytic reports on network usage patterns and user behaviors following an event. With insights this precise, the Centre can proactively plan for offering improved event experiences for both exhibitors and guests.

## A brighter future for the Perth Convention & Exhibition Centre

With their new high-performance network, the Perth Convention and Exhibition Centre can service the demands of their clients, presenting new opportunities to grow and generate revenue.

They can manage their systems conveniently, using minimal resources, reducing their ongoing overheads and providing a world class platform servicing customer technical requirements. In 2017, the 11th Annual Internet Conference, sponsored by Google, will be hosted in Perth, expecting to draw over 5,000 attendees with an estimated 6.5 devices per person.

Guest analytics will be in high demand following the event, allowing exhibitors to review their audience's behaviors and tastes, and gauge the popularity of their content.

Following the success of their network replacement, the Centre now has the ability to offer future enhanced services like targeted on-location marketing, interactive maps with smartphone integrations, enhanced digital signage and new personal safety features for faster emergency response.