Alamanda College

MELBOURNE'S ALAMANDA COLLEGE GRADUATES TO AI-DRIVEN NETWORK OPERATIONS WITH JUNIPER

Summary

Company:
Alamanda College

Industry:
Education

Business Challenges:
Deliver exceptional network user experiences for students, teachers, and staff while simplifying network operations for the information and communications technology (ICT) staff.

Technology Solution:
- *Juniper Mist Platform*
- *Juniper Mist Wi-Fi Assurance*
- *Juniper Mist Wired Assurance*
- *Marvis Virtual Network Assistant*
- *EX3400 Ethernet Switch*
- *Juniper Series of High-Performance Access Points*

Business Results:
- *Prioritized user experiences so students and teachers stay focused on learning*
- *Transitioned to cohesive wired and wireless network with no formal training*
- *Used AI-powered troubleshooting to detect misconfigured VLANs, bad cables, and Dynamic Host Configuration Protocol (DHCP) timeouts and proactively resolve issues*
- *Reduced an average of 10 Wi-Fi complaints per day to zero*

The southwest corridor outside Melbourne, Australia, is one of the fastest growing populations in the state of Victoria. New families from throughout the country are moving into the area to enjoy shopping, restaurants, and waterside recreation. To support the growth, the suburb's school district has expanded rapidly with top-level educational facilities.

Alamanda College, a government school serving years K through 9, opened in 2013, and it quickly swelled to 3000 students and 250 staff in less than a decade. The campus size has kept pace with the student population, growing exponentially with classrooms added each year.

The campus is expansive, and Wi-Fi is everywhere. Since moving to a cohesive Juniper wired and wireless network, students, teachers, and administrators enjoy better digital learning experiences with reliable connections to online learning tools, video, and the Internet.

AI Passes Test and Wins Full Campus Deployment

Alamanda College decided to move all of its infrastructure and data to the cloud. The initial lift transitioned the campus wired network, servers, and voice communications to the cloud. Then the wireless LAN took center stage, and a cloud-managed network had strong appeal.

"Having wireless controllers onsite means that there's a lot of reconfiguring and downtime when you do a refresh," says Tony Pace, specialist technician, eduSTAR. TSS in the Information Management and Technology Division at Alamanda College. "We made the decision to move to the cloud and never have to worry about updating controller software again."

Alamanda College's ICT team began searching for a cloud-managed network and its partner Unity Computers recommended a Juniper wired and wireless network driven by Mist AI™.

"We have had zero wireless issues with our Juniper Mist network. Before we would get 10 calls a day about clients not connecting to the network."

- Tony Pace, specialist technician, eduSTAR.TSS, Information Management and Technology Division, Alamanda College

Mist AI is the first real AI-driven network, built for unparalleled visibility and control of the network user experience. Juniper® Mist cloud services is a modern microservices cloud environment. Mist AI prioritizes user experiences by providing unprecedented insight into user behavior, minimizing ICT operational costs with automation and proactive actions for the wireless network administrator.

"I looked at the documentation, did research, and liked what I found out about Mist AI," Pace says.

Pace wanted to set up a proof of concept to validate his expectations. After a 15-minute conversation with Juniper, Pace had the network up and running. He immediately became a Mist AI fan.

"I was able to get Mist AI and Juniper Access Points going with no formal training," he says.

AI-Driven Network Gains School's Support

A Juniper network driven by Mist AI empowers the ICT team at Alamanda College to build a strong record of success and a reputation for excellent network user experiences. The Juniper Series of High Performance Access Points provides wireless connectivity and the Juniper Networks® EX3400 Ethernet Switch provides wired connectivity.

Visibility into the user experience is key for the digital learning experiences of thousands of students. In addition to the 1-to-1 learning devices distributed to every student, the school's network supports students' and teachers' personal devices, Google phones, MacBooks, iPads, iPhones, IPTVs, and IP phones. Some 5000 devices connect to the school's network every day.

"Six months ago, I had never seen the Junos operating system, but you plug the switch in, and it gets configured. That's really attractive."

- **Tony Pace, specialist technician, eduSTAR.TSS, Information Management and Technology Division, Alamanda College**

Mist AI proactively turns user experience insights into automated actions to identify and resolve issues across the wired and wireless network. Mist AI simplifies operations for the ICT team through unique client-level insight, rapid network troubleshooting, trending analysis, anomaly detection, and proactive problem remediation.

The school had long struggled with intermittent connectivity issues in the classrooms. Mist AI swiftly identified the problem as dynamic frequency selection (DFS) timeouts due to the nearby Royal Australian Air Force station. Mist AI leveraged reinforcement learning from its rich data science toolbox to automatically resolve the RF problem so students and teachers could connect easily.

"We have had zero wireless issues with our Juniper Mist Platform," Pace says. "Before we would get 10 calls a day about clients not connecting to the network."

Mist AI Solves School's Hidden Network Problems

Mist AI has solved device, misconfigurations, and RF problems in minutes.

"Since we installed Juniper Mist, we are identifying problems that we weren't able to see before," Pace says.

For instance, one staff member's laptop repeatedly experienced long connection times. Mist AI-driven troubleshooting tools showed that the laptop had a low signal and thus difficulty roaming. It turns out that the Wi-Fi chip had dislodged.

Juniper Mist Wired Assurance delivers better experiences for devices connected to EX3400 switches through AI-powered automation and service levels. Juniper Mist Wired Assurance leverages rich Junos® operating system telemetry to enable simpler operations and faster problem resolution. For instance, Pace used Juniper Mist Wired Assurance to identify missing VLANs on switches—a problem that is hard to diagnose but easy to fix.

"Juniper Mist Wired Assurance's best feature is that I can see all devices plugged into switches, interfaces, and IP addresses," Pace says. "From one pane of glass, I can identify what is wrong. It is really handy."

A Clear Path to a Cohesive Campus Network

Deploying a Juniper network driven by Mist AI was incredibly simple, according to Pace.

"The way we can adopt Juniper Access Points from a mobile app is a huge time saver," Pace says. To deploy the new Wi-Fi on campus, Pace gave a contractor a phone and a map with instructions to walk the campus installing and adopting Juniper Access Points. "It saved us an enormous amount of time," he says.

Pace deployed EX3400 switches using Juniper Mist Wired Assurance's zero-touch provisioning (ZTP) capability. "Six months ago, I had never seen Junos OS, but you plug the switch in, and it gets configured. That's really attractive," he says. "Other vendors can do ZTP, but you need to be a rocket scientist."

Alamanda College Readies for Contact Tracing

In the next development phase, Alamanda College is considering adding contact tracing through Juniper Mist User Engagement cloud service. Indoor location services could help the school provide wayfinding services on campus, identify equipment thefts, and prevent the spread of a COVID outbreak if a student or staff member is infected.

"Juniper networking and Mist AI give us lots of options for the future," Pace says. "We have the opportunity to support more students on our campus and keep them and the campus safe while committing to a great education."

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

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