![Ashland School District — inspiring learning for life]

ASHLAND, OREGON SCHOOLS BLAZE A TRAIL FOR DIGITAL LEARNING WITH JUNIPER AI-DRIVEN NETWORKING

Summary

Company:
Ashland School District

Industry:
Education

Business Challenges:
Empower students and teachers to freely engage in digital learning with an optimized network experience.

Technology Solution:
- *Mist Wireless LAN Platform*
- *Wired Assurance*
- *Wi-Fi Assurance*
- *Marvis Virtual Network Assistant*
- *EX4300 and EX2300 Ethernet Switches*
- *QFX5100 Switch*

Business Results:
- *Delivered an exceptional network experience to 3400 students, faculty, and staff*
- *Readied school site networks to support future demands of digital learning*
- *Enabled front-line support staff to troubleshoot complex network problems*
- *Streamlined network operations through AI and automation*

Nestled at the base of two mountain ranges, Ashland is known for the Oregon Shakespeare Festival, the arts, and endless opportunities for outdoor fun. A lucky few call Ashland home, and the public schools educate 3000 students. The Ashland School District relies on wireless solutions from Mist, a Juniper company, and Juniper wired networking to advance digital learning and student success.

Ashland has a small-town vibe with high academic expectations. Ashland High School consistently ranks in the top five percent of high schools nationwide according to U.S. News and World Report. A few years ago, the Ashland School District outlined a strategic plan for student success, and it backed those intentions with a bond measure to renovate schools, redesigning classrooms and strengthening educational technology. With digital learning an integral part of every day, the school site networks were refreshed.

AI-Driven Networking Takes the Top Spot

Steve Mitzel, director of IT at Ashland School District, runs an innovative team.

"We like to be exposed to new and trailblazing technology," Mitzel says. "As we did our research for the network upgrade, we were introduced to Mist at an executive briefing center event. We left with a feeling of intrigue, and we began our research."

The objective was to refresh the networks serving the high school, two middle schools, and three elementary schools. Technology is integral to learning, whether it's kindergartners who are just exploring the world or high schoolers exploring future careers in engineering and manufacturing technology.

Delivering a great network experience for students, teachers, and administrators was a top priority. Equally important was streamlining network operations.

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  - Steve Mitzel, director of IT, Ashland School District

"We're a small shop, so we need to be agile and efficient," Mitzel says. "Mist appealed to me because I could take the wireless controllers out of the equation and make management of the laptops and iPads easier and more intuitive. AI and cloud are the direction the industry is headed in, and Mist was the first."

Ashland School District refreshed its campus network with Mist wireless and Juniper wired networking. The Mist Platform is built on a modern microservices cloud architecture that automates tasks to improve Wi-Fi reliability, accelerate troubleshooting, and provide insight to user experiences.

"We committed early to Mist, and we've never looked back. We have raw respect for the trailblazing work that Mist did, and we wanted to be aligned with that innovation."

- Steve Mitzel, director of IT, Ashland School District

Marvis Virtual Network Assistant is an integrated AI engine built into the Mist Cloud that simplifies IT operations through client-level insight, rapid wired and wireless troubleshooting, trending analysis, anomaly detection, and proactive problem remediation. The Marvis AI engine has been continuously learning and improving its efficacy in the past four plus years and continues to evolve its rich data science toolbox in combination with validation of the AI actions and root cause analysis by the customers' IT teams.

"For a school district of our size, we have very sophisticated wireless and we can manage it effectively," Mitzel says. "Mist's AI intrigued me, but Wired Assurance, Wi-Fi Assurance, Marvis, and analytics put us in a position where the network is very easy and transparent to manage."

Unifying Wired and Wireless Operations

"One of the advantages of the Mist dashboard is that we can see at a glance how the user environment is doing from a service-level expectation perspective," says Shahid Ali, network engineer at Ashland School District. "If students or teachers are having issues, we can drill down to find out specifically what part of the connection failed, and we have the packet capture ready if needed, all without the need to send one of our engineers out to the school to reproduce and capture the problem. Dynamic packet capture came in handy diagnosing authentication issues during our deployment, something that wasn't even caused by the wireless network, but was one of our authentication servers."

"Wired Assurance and Wi-Fi Assurance are compelling," Ali says. "Having wired and wireless all in one dashboard makes it easier for our support technicians because they have a single place to find and troubleshoot a problem without having to escalate to the network operations team."

Wi-Fi Assurance, driven by Mist's machine learning, replaces manual troubleshooting with automated wireless operations, making Wi-Fi predictable, reliable, and measurable with clear visibility into user service levels. Proactive anomaly detection identifies when the experience is degraded, correlates the events for the issue, and automatically determines a root cause while alerting the administrator. Once the administrator opens up the anomaly, they have access to the root cause including potential events across the network or even a wired or wireless packet capture, all without having to send an engineer out to the site to collect wireless traces or event logs.

And, with Mist Cloud, the IT team doesn't have to worry about the risk, time, and complexity of upgrading wireless controllers anymore. Instead, software updates are available on demand, patches take just minutes, and it can consume a steady stream of new features from Mist.

Wired Assurance leverages Junos® operating system switch telemetry to streamline operations and provide better visibility into the user experience for connected devices, including access points, servers, and IoT endpoints. Service-level expectations are measured, and the network team is proactively notified if there's a deviation in switch performance—before it affects learning. Wired Assurance can take automated actions such as adding missing VLAN tag configurations or correcting switch port misconfigurations, or even bad cables.

At Ashland, Wired Assurance provides visibility into Juniper Networks® EX4300 Ethernet Switch, which serves as the core of the campus network, as well as the Juniper Networks EX2300 Ethernet Switch, which provides access switching in classrooms, labs, and offices. The district also uses the Juniper Networks QFX5100 line of Switches for high-performance, reliable data center networking.

"The Juniper and Mist team have been great. Their level of engagement is unheard of these days."

- Steve Mitzel, director of IT, Ashland School District

Small School, Big Technology

Ashland School District was among the first K-12 schools in the U.S. to deploy Mist.

"We committed early to Mist, and we've never looked back," Mitzel says. "We have raw respect for the trailblazing work that Mist did, and we wanted to be aligned with that innovation."

That innovation gives a district of 3000 students an advanced network that districts ten times that size might have—but without any added complexity.

"Mist scales easily across the K-12 landscape, from big urban school districts to small, rural districts," Mitzel says. "The Mist solution works in so many scenarios."

That provides a foundation for the future of learning, whether in the classroom, in the theater, or on the field. And it can count on its partnership with Juniper and Mist.

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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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