



# Healdsburg Unified School District

## Healdsburg Unified School District Modernizes Wireless Network for Digital Learning

### Challenges

- Building a robust wireless infrastructure to support digital learning
- Meeting demands for density and influx of devices
- Modernizing wireless network to scale for the future within budget parameters

### Results

- Established secure wireless infrastructure across all schools, meeting budget requirements
- Implemented network to handle large number of devices for group testing and 1:1, including hosting high-density testing for Aerohive on its campus
- Deployed cloud-based network management, access points and switches for complete control, even at the network edge

### About Healdsburg Unified School District

Located north of San Francisco near the Napa Valley, Healdsburg Unified School District (HUSD) provides an academically rigorous education to 1,700 students from preschool to 12th grade. The District includes a preschool, two elementary schools, a charter elementary school, a middle school, a high school, and an alternative education high school. HUSD also offers a two-way Spanish immersion program at the elementary level.

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—Chris Moghtaderi

Director of IT  
Healdsburg Unified School District

While the District is fairly small, it allows the school community to know students and families well, while offering 21st century skills. Over 200 faculty and staff offer innovative, award-winning programs that inspire and engage all students on their path to college and career.

### The Challenge

Like many districts in the nation, HUSD was affected by the economic downturn almost 10 years ago. The District is also situated in a destination location, and thus many of its residents are part-time inhabitants, characteristically second-home owners desiring to be in beautiful Sonoma County. As a result, the District experienced declining enrollment and other economic challenges in the years past. While some technology initiatives did go forward during the downturn, there was gradual neglect of infrastructure and the network structure across the District.

When Chris Moghtaderi, Director of IT, came on the scene in 2014, HUSD was reviving and was actually in the throws of several building projects, including a complete remodel of the middle school. Construction and infrastructure plans were altered based on his assessment of the networking needs, and cabling and fiber interconnects were modified mid-course to allow plans for a robust wireless network. He also had to make considerations for many older building structures in the district.

With updates to the networking infrastructure, the IT team could focus on how to accommodate wireless requirements at all schools, including 1:1 programs and BYOD initiatives. Like any organization, HUSD had seen an explosion in the number of devices, including the likelihood of the average student carrying a tablet, phone and a wearable device.

### The Solution

HUSD began evaluating its overall infrastructure. It had a Meraki solution in place that was only two years old, but the lower tier devices the District had chosen were having serious issues with reliability. The District began to look at options including solutions from Aerohive, Cisco, Hewlett Packard, Juniper Networks and Meraki. HUSD immediately narrowed the field to Aerohive and Meraki since it mandated a controller-less solution. The security features from Aerohive, instrumental in managing BYOD programs, were the decisive factor in the District choosing Aerohive for its comprehensive wireless solution.

The District moved forward on setting up a robust network across its schools, with cabling in place for one access point per classroom. At the same time, Aerohive approached Healdsburg about conducting a high-density Wi-Fi test on its campus over the summer, simulating online testing and video streaming for up to 250 devices in the junior high gymnasium. Not only did this testing benefit Aerohive's research and development teams, but also gave Healdsburg insight into how Aerohive would function in its environment, providing additional data for how to configure the network going forward, and solidifying the decision to deploy Aerohive across all schools based on the outstanding test results.

"Aerohive has paved the way for Healdsburg Unified School District to embrace digital learning and move forward with many of our technology goals," explains Chris Moghtaderi, Director of IT at HUSD. "Working with Aerohive is not a typical vendor-customer relationship, and from the beginning Aerohive valued and sought our input. Participating in beta and density testing, as well as exchanging ongoing communication about our implementation and learning initiatives are huge value adds to the overall solution."

The District deployed Aerohive AP230 and AP1130 802.11ac access points, and chose Aerohive SR2148 switches to enable control at the network edge with single policy management. This allowed users to be assigned to the correct network and VLAN, whether they logged in at the switch or the AP. The District implemented HiveManager Online for cloud-based network management.

The network is segmented for staff, with a single SSID for both District-issued and personal devices. There is a second SSID for students and an additional guest network with WPA authentication for greater privacy. HUSD plans to implement Aerohive's Private Pre-Shared Key (PPSK) next summer for increased security and simplified management on the guest network.

### Results

Having a robust wireless infrastructure in place means the District can begin to move forward on other digital learning programs, including an eventual 1:1 Chromebook rollout across the majority of schools and conducting online Smarter Balanced Assessment testing. The District has now hired technology coaches to support technology integration into classroom instruction.

Digital learning initiatives and wireless functionality have pervaded many areas of instruction and operations across all schools. HUSD is a Google Apps for Education school and uses Hapara to allow students to turn in assignments, work collaboratively and communicate through mobile devices. Digital curriculum and teaching resources from Edmodo and Edusoft are accessed regularly, reading intervention programs such as Read180 and Read Naturally are used on iPads for the immersion program, and programs like Khan Academy are sourced by teachers for classroom enrichment. iPads are used in outdoor learning spaces to access a variety of apps, including agriculture apps to identify plants and work with garden plots. Student attendance is taken via iPads and coaching staff use mobile tablets for taking attendance outdoors.

Outside the classroom, the wireless network is creating operational efficiencies. Campus supervisors use iPads to route students to classrooms as needed, accessing student information and schedules directly from the tablets. The maintenance department uses software from SchoolDude for work order management. Administering facilities ticket requests through iPads has increased productivity and saved time for processing work orders. Substitutes and teacher scheduling is managed through Aesop.

Future plans also include implementation of a learning management system, using certain apps for extended learning such as Skype and Google Hangout, as well as using programs like Edmentum and Plato Courseware for blended learning.

### Embracing Digital Learning

Like many schools across the nation, HUSD is in the early stages of making the shift to digital. Building out wireless infrastructure to support information age learning has been complex, especially with navigating old buildings, incorporating new teaching strategies, and needing to develop a new set of skills to use the technology. With Aerohive, HUSD has set the foundation for all schools to embrace digital learning, and the IT team will continue to support and enhance programs across district schools in the near future, setting the stage for continued success.



Contact us today to learn how your organization can benefit from Aerohive wireless LAN architecture.

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