



Isle of Wight County Schools

Aerohive Wireless Network Helps Historic Community Bolster Students' Education with Online Learning and Testing

Challenges

- Make computer-based learning tools and campus Wi-Fi for Internet access as pervasive as possible for maximum effectiveness in education
- Eliminate complicated cable setup for teachers using mobile computer labs
- Required a controller-less wireless LAN architecture to increase reliability while eliminating bottlenecks
- Required an 802.11 a/b/g/n solution to ensure that all technologies would be covered

Results

- Aerohive WLAN providing a comprehensive reliable WLAN to handle the student and faculty-generated Wi-Fi traffic
- Utilizing Aerohive's integrated mesh functionality in situations where it is impractical to install a physical network drop, or where the need is temporary
- In addition to accessing the Internet, students are increasingly taking tests using computers
- Has the ability to set up secure SSIDs (Service Set Identifiers) as well as a guest portal and authentication to Active Directory and LDAP.

The Challenge

Isle of Wight County is one of the oldest county governments in the U.S., dating back to the 17th century. And yet its education system is facing one of the most modern problems facing schools today.

Like many cities and counties, Isle of Wight County Schools is relying on high-tech learning tools to help give its students the best education possible. The county is comprised of 5,500 students attending one of nine K-12 schools: two high schools, two middle schools and five elementary schools. There are 900 faculty and staff teaching and administrating the education process.

But there is something that goes hand-in-hand with taking advantage of technology. And that's the challenge of making computer-based learning tools as pervasive and affordable as possible for maximum

effectiveness. The more kids with access to the Internet (and devices for accessing the Internet) the better equipped students are for the future.

For example, carts, serving as mobile computer labs and loaded with about 30 laptops, roamed the schools' corridors as a practical approach to sharing high-tech learning instruments. Money is scarce at schools, and computers don't get used 100% of the time, so mobile computer labs have become a great sharing and learning resource for schools.

However, finding a place to plug in the laptops, though conveniently delivered to a classroom via a mobile cart, was challenging. Wired networks are expensive to deploy, hence not every building, or classroom, was network-ready.

"We were just hoping to increase flexibility and convenience for the teachers and the students. The teachers now all have laptops, but we don't want them having to mess with cables. There are a lot of laptops on mobile carts and configuring those with wired networks was pretty much impossible," said Joshua Spough, Director of Technology, Isle of Wight County Schools.

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—Joshua Spough
Director of Technology, Isle of Wight County Schools

For Isle of Wight County Schools, that meant taking its learning environment into the 21st century. The nearly 400-year-old county needed a wireless network that spanned the nine schools comprising its education system.

The Solution

The Isle of Wight County Schools chose Aerohive for its unique controller-less approach to wireless networking, although the company's wireless LAN was selected from among a list of tough competitors.

Isle of Wight evaluated solutions from Cisco, Aruba and Xirrus, but didn't go so far as to do any actual hardware tests other than with Aerohive.

"We looked at Cisco, but decided against going that route because all the traffic goes back through the controller. We are still using Cisco for our other LAN equipment, but they are not our wireless vendor," said Spaugh.

The school system liked Aerohive's distributed WLAN approach because traffic isn't forced to go back to a central controller. "Going controller-less was important because it meant we were avoiding the issue of having a single point of failure," said Spaugh. "We really wanted to avoid that hit to the network.

"Also, performance is important. It just never made sense to route all the traffic to the same device over the network because you really lose speed with that approach. I just didn't see the benefits of a controller-based WLAN when Aerohive could provide the intelligence and control without the controller."

In addition to the controller-less approach to WLANs, Isle of Wight had several other key criteria that were met by Aerohive's Cooperative Control Architecture.

"We needed an 802.11 a/b/g/n solution to ensure that we were covering all the technologies. We wanted it to be centrally managed and easy to configure. We wanted it to be fast with failover capabilities between the APs. We wanted something that would eventually work if we were to do a wireless phone initiative," said Spaugh.

The Result

Isle of Wight's Aerohive WLAN includes about 200 APs that serve both faculty and students. Originally the schools used Apple AirPort and Linksys routers for spotty Wi-Fi coverage, but now they have a comprehensive reliable WLAN to handle the student and faculty-generated Wi-Fi traffic.

"We needed the ability to have secure SSIDs (Service Set Identifiers). We also wanted the ability to have a guest portal and authentication to Active Directory and LDAP," said Spaugh.

The school district has also been able to utilize Aerohive's integrated mesh functionality. "We have used it in situations where it is impractical to install a physical network drop, or where the need is temporary."

As far as enhanced learning, not only do students learn by accessing the Internet, they are increasingly taking tests using computers vs. pencils.

In fact, Virginia is among those states that have imposed a mandate to make it possible to take Standards of Learning (SOL) tests online.

Virginia students now take nearly two million SOL tests online annually, and by 2013, online will be the primary delivery mode for all SOL assessments. The benefits to online testing are that this allows results to be provided more quickly, and it provides innovative test items that challenge students to better demonstrate what they've learned.

As a testimony to how smooth the school system's Aerohive deployment was, each AP is up and running within minutes after installation. How many schools, cities, or companies can boast that they've moved from their 17th century roots to a 21st century cutting edge technology in a blink of an eye? It's a colorful picture and one that's serving the education of Isle of Wight County students well.



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

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