



ADTRAN Bluesocket virtual Wireless LAN

Archbishop Riordan High School and ADTRAN Provide Students with Access to Innovative Learning Opportunities Through Technology

About Archbishop Riordan High School

Archbishop Riordan High School educates over 600 day students and 50 international boarding students in their downtown San Francisco Campus. The school campus is operated by the San Francisco Diocese and is the oldest all-male boarding school in the city.

The Challenge

The school wanted to deploy a 1:1 iPad program, but their current wireless technology could not provide the necessary connectivity and bandwidth. Additionally classrooms did not have telephones, which limited communication with teachers in an emergency.

The Solution

Riordan High School deployed Bluesocket vWLAN throughout the campus and dorm. The school installed 75 Access Points (APs) to provide campus-wide connectivity for students and teachers. After the success of vWLAN, the school purchased the ADTRAN Enterprise Communication Server and 100 telephones for the teachers and staff.

The Benefit

The school deployed a 1:1 iPad program, which has allowed teachers to provide a more engaging and broad education to students, including video lessons and online tests. Students in the Research Specialist Program have been able to quickly engage their learning differences using the technology and apps available on the iPad.

Archbishop Riordan High School is the oldest all-male high school in San Francisco and educates over 600 day students in addition to the 50 students enrolled in the international boarding program. The campus is one of the few boarding schools located in an urban setting and offers many amenities to the students, including a full-size 1,000 seat theater. Instead of the traditional yearlong high school courses, students are enrolled in four courses each semester that are 80 minutes long, which allows for in-depth exploration and learning. Riordan High School students have a long history of attending prestigious colleges and universities after graduation.

Real People

For many years wireless internet service to students and staff was provided through standalone Wi-Fi hot spots. When the international boarding program was launched in 2011, a Meru wireless network was installed in the dorms to provide connectivity to the multiple devices used by each residential student. However, the dorm network was constantly experiencing downtime and slow connectivity speeds due to high bandwidth applications, including video chats and streaming.

When Dr. Steve Johnston, Director of Academic Technology and Innovation, implemented plans for the school's 1:1 iPad program, he decided that neither standalone hot-spots nor the Meru network was the best solution for their needs. The school enlisted Hummingbird Networks to provide a new wireless solution that would provide the connectivity the school needed to effectively integrate technology throughout the entire learning process.

Real Networks

Hummingbird Networks began searching for a product that would support over 1,000 devices concurrently provide compatibility with the school's current VMware platform and scale for future enrollment growth. After researching several vendors, Hummingbird Networks recommended ADTRAN's Bluesocket virtual Wireless LAN (vWLAN) for the campus.



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Dr. Steve Johnston, Director of Academic Technology and Innovation at Riordan High School

"We can confidently recommend ADTRAN products to our customers because we know that they are getting quality products and top-notch support," says John Ciarlone, Vice President of Sales and Marketing with Hummingbird Networks.

ADTRAN's vWLAN virtualises the centralised management and control function on software thereby removing 100% of the controller hardware. In addition, vWLAN enables customers to dramatically reduce the cost of deploying and operating large-scale Wi-Fi networks while providing wired-equivalent performance to wireless users, with seamless roaming and enterprise-class security and policy management.



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Hummingbird Networks and ADTRAN, in conjunction with Dr. Johnston, spent several months creating a network infrastructure that would meet the school's needs, as well as keep out rogue wireless signals from a nearby college. Across the campus, 75 APs were installed to provide connectivity anywhere a student or staff member roamed, including the courtyard and hallways. ADTRAN and Hummingbird Networks also helped the school leverage their existing VMware server which saved significant time during the transition. The school launched the 1:1 iPad program for the 2012/2013 year as an optional year for the technology and over 85 percent of the students showed up on the first day with an iPad in hand.

Enrollment Increased Due to 1:1 Technology Program

Teachers now integrate technology into almost every aspect of their course and are consistently coming up with innovative uses to enhance the curriculum. "Students are much more engaged with the lessons and our enrollment has steadily increased largely in part due to parents and students wanting a high school using technology to its fullest potential," stated Dr. Johnston. "The 1:1 iPad program, which would not have been possible without Bluesocket vWLAN and the support we have received from ADTRAN, has made a huge impact on the level of education that we are able to provide to each student that walks through our doors."

Each class at the school has an iTunes U course, which allows students to access the syllabus, assignments and notes. "Many teachers will use the video functionality on their tablet to record the lecture ahead of time and require students to watch the video as homework," says Johnston. "During class, the students have an interactive discussion on the topic instead of just listening to the teacher, which allows for a much deeper learning and understanding for the student."

Instead of lugging a textbook home, students read the majority of their lessons on their tablet with digital textbooks. When a student completes their homework instead of passing it to the front of the class, they put the file into a Dropbox on the server for the teacher to review. Since the majority of classroom activity is available online, a student who is homebound for a health reasons can participate in school and even Skype in for a classroom discussion.

"If you walk into a classroom, you will see teachers using the Nearpod application to broadcast their lecture notes to each student's iPad," says Johnston. "Last week a teacher even used the application to give a Biology exam to his class, which saved him time when grading the

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**John Ciarlone, Vice President of Sales and Marketing
Hummingbird Networks**

tests. Teachers and students also communicate much more often via email now that everyone has more immediate access."

Helping Students with Learning Differences Meet Their Fullest Potential

Riordan High School specialises in providing personalised education for students with learning differences, such as ADHD or dyslexia, and over 20 percent of the students are enrolled in the Resource Specialist Program. Student aides have integrated the iPads into the assignments provided to the students, such as using the read-aloud option on the iPad, teaching organisation through using iTunes U and using apps personalised for each student's special needs. "The 1:1 program has been especially positive for our Resource Specialist Program (RSP) students and has really helped them reach their full potential," says Johnston.

Even with over 1,000 devices, including a high use of streaming technology, the connectivity speeds exceed 100 mbps a second along with providing a high level of reliability. The students at the dorm are now able to video chat with their families or watch movies on the weekend without network lags. "Our IT staff has increased productivity by managing the network through the easy to use graphical interface," says Johnston. "We have less technical issues now than we did with our previous solution and are using many times more devices on the network." The school plans to expand connectivity in the near future to the football field. "We can affordably expand our coverage on the campus by purchasing additional APs instead of having to upgrade or rewire our network," Johnston says.

Riordan High School has found ADTRAN support to be responsive and knowledgeable. "ADTRAN gives each of its clients excellent support, before, during and after installation," says John. "Other companies make the sale and then walk away, but ADTRAN has been available for Riordan High School every step of the way."