

School District Deploys Computing Initiative

Mooresville Graded School District Partners with Cisco for “Digital Conversion”

EXECUTIVE SUMMARY
MOORESVILLE GRADED SCHOOL DISTRICT <ul style="list-style-type: none"> • K-12 Education • Mooresville, North Carolina USA • 750 Employees
BUSINESS CHALLENGE <ul style="list-style-type: none"> • Provide over 4500 MacBook laptops to all students grades 4-12 including robust network to support the project • Eliminate need for printed textbooks and merge traditional learning methodologies with interactive media • Enable interactive learning environment
NETWORK SOLUTION <ul style="list-style-type: none"> • Provide cutting edge 801.11n wireless network that supports the wealth of rich media available to today's educators • Provide broadband wireless connectivity solution that creates access to a one-to-one environment consisting of over 4500 laptops at six sites
BUSINESS RESULTS <ul style="list-style-type: none"> • Ubiquitous access to vast array of online content and educational material • Positive impact on student engagement and productivity, including an increased attendance rate to over 97% district wide and an 8% composite gain and academic achievement • Solution for digital divide among all students in regard to socioeconomic, cultural and ethnic boundaries

Business Challenge

Mooresville Graded School District is located approximately 30 minutes from Charlotte, North Carolina. Affectionately called “Race City, USA,” Mooresville is the home to several National Association for Stock Car Auto Racing (NASCAR) teams, the NASCAR Institute of Technology, and the national headquarters for Lowe's Home Improvement. This typical-sized district is made up of eight schools, with two additional schools under construction, and approximately 5500 students. In a blue-collar, old mill town, the Mooresville Graded School District has not had a significant technological innovation in several years.

There was a growing digital-divide between those students who had access to technology, libraries, and educational tools and those who did not. At the majority of Mooresville schools, laptops were restricted to in-class use only. Families had to purchase their own laptops in order to utilize the most updated learning tools and access resources from home. The school board began receiving pressure from parents and policy makers to take action and create a strategic plan to address this

discrepancy as well as the declining student performance.

Led by a consensus of school leadership, the district developed the Digital Conversion Initiative. This one-to-one computing initiative provides each student in grades 4–12 their own Apple MacBook laptop with 1Gb of RAM and a 120 Gb hard drive. Additionally, a SMART Board was secured for every K-3 classroom. Regardless of socioeconomic background, all students are now able to access the same next-generation educational materials, including access to online reference libraries, virtual museum tours, and global chats with students all over the world. Eliminating the digital-divide and helping all students obtain the relevant 21st century skills needed to succeed in today's world became paramount. The school district was confident overall student performance would improve if students were given the opportunity to take computers home to continue their learning through homework, projects, and research.

The superintendent of the school district, Dr. Mark Edwards framed the project as an economic development opportunity for the community to attract more businesses and families to the area. Significant funding through grant opportunities came from the community and local corporations,

such as Lowe's Home Improvement and the local chapter of the National Association for the Advancement of Colored People (NAACP). Funding was also pooled from federal, state, and local resources, creating an authentic community effort.

Network Solution

The school district had a wired NetGear infrastructure in place and had originally intended to implement the wireless access solution using that foundation. It became clear, however, that the Digital Conversion Initiative would require a robust, scalable foundation that could support and leverage all the activities inherent in such an undertaking. Cisco was the only company that could deliver a broadband wireless connectivity solution with access for a one-to-one environment consisting of approximately 4500 laptops at six sites. Cisco's cutting-edge 802.11n wireless network was able to support the wealth of rich media that is currently available for today's educators. Cisco® partner Coleman Technologies, Inc. was brought in for the technology deployment and implementation and was instrumental in making this initiative for 21st century teaching and learning a reality.

Summer institutes were conducted in July 2008 and 2009 to assist over 350 faculty and staff members with the integration of technology within the classroom. In addition, five professional development early release days were added to the school calendar to afford prescriptive training for teachers. Following the teacher deployment of laptops during the 2007-08 school year, the next

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—Dr. Mark Edwards, Superintendent, Mooresville Graded School District

phase of the Digital Conversion Initiative placed laptops into the hands of approximately two-thirds of the Mooresville students. Beginning the 2009-10 school year, all students in grades 4–12 will have laptops.

Students at these schools now have the opportunity to take their laptops home every night. The laptops provide access to the most current information available through the Internet as well as multimedia tools, supplementing material presented in textbooks and by teachers. Ongoing training is occurring in the schools for educators through technology facilitators, media specialists, teacher leaders, and outside vendors.

The Digital Conversion Initiative helps ensure that the professional development of faculty and staff is sustained, relevant, and prescriptive.

Another component of the Digital Conversion Initiative was to include younger students in the digital learning environment. Digital, interactive SMART Boards were placed in every K–2 classrooms at Park View Elementary and South Elementary. At the start of the 2009-2010 school year, all K–3 classrooms in the district will be equipped with the SMART Board technology.

Business Results

PRODUCT LIST
Routing and Switching <ul style="list-style-type: none"> • Cisco Catalyst® 4500 Series Switches • Cisco Catalyst 3750-E Series Switches • Cisco Catalyst 3560 Series Switches
Wireless <ul style="list-style-type: none"> • Cisco 4400 Series Wireless LAN Controllers • Cisco Aironet® 1252 Series Access Points
<p>To learn more about the Cisco Wireless Solution, go to: http://www.cisco.com/en/US/products/hw/wireless/index.html.</p>

Mooresville Graded School District now has a reliable, high-quality Cisco infrastructure and wireless technology that is not only a vehicle for all online content and instruction, but is replicable for any school system, regardless of size. During the 2008-2009 school year, Mooresville hosted over 100 educators from over 30 different educational institutions from across the nation to visit classrooms, collaborate with colleagues, and learn about the Digital Conversion Initiative. The purpose of the outreach was to help other schools and districts develop a 21st century learning community in their own school or district and to become a

collaborator in a true digital conversion learning community.

Although the Mooresville project is still in its early stages, results are promising. Classroom attendance rates have increased to 96 percent since the Digital Conversion Initiative and the student drop-out rate has decreased significantly. Scholarships obtained by Mooresville High School students have increased, and student, teacher, and parent testimonials all show positive gains.

“Our vision is to provide 21st century access to information, connectivity with the world, and opportunities for learning to our students, faculty, and parents through innovative, network-based content,” said Dr. Mark Edwards, Superintendent, Mooresville Graded School District. “We are providing cutting-edge technology in our classrooms, which positions our students, and ultimately our community, for economic development and success.”

Additionally, Mooresville has saved approximately 20 percent of its annual textbook budget. Modeling the professional-world environment, students now work around tables with their laptops instead of at traditional, individual desks. This change in seating also saves on costs. Additional cost savings include effects on the instructional budget as students and faculty now have embedded graphing calculators, access to maps/three-dimensional globes, dictionaries, libraries, thesauruses, and publications.

Cisco technology has played a significant part in improving teaching and learning through increased student engagement in Mooresville classrooms. Laptop computers have significantly enhanced the level of student interest, motivation, and engagement to learn. The focus in Mooresville Graded School District is to engage students with instructional tools, add value to their performance, and realize improved achievement in all aspects of their school experiences.

Next Steps

By August 2009, MacBooks will be in the hands of every 4th–12th grader in Mooresville Graded School District, and SMARTBoards will be installed in every K–3 classroom.

Figure 1. Mooresville Graded School District faculty and teachers learn how to successfully integrate technology into the classroom.



For More Information

To find out more about the Cisco Wireless Solution, go to:

<http://www.cisco.com/en/US/products/hw/wireless/index.html>.

To find out more about the Mooresville Graded School District Digital Conversion Project go to:

<http://digitalconversion.MGSD.K12.nc.us>.



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