

SUCCESS STORY

CREATING A NEXT GENERATION NETWORK

for Enhanced Learning at Cecil County Public Schools



What Data Networks Did for Cecil County Public Schools

- Assessed aging network architecture and created recommended designs for modernization
- Specified new Juniper Networks wired and wireless LAN hardware and configurations
- Configured and tested a “master” instance of network hardware at our Staging and Configuration Center (SCC), then replicated to all devices using a JUNOS Space Virtual Appliance
- Minimized impact on school activities by carefully scheduling required outages and performing all building-wide Ethernet cabling after hours
- Provided knowledge transfer and configuration documentation to CCPS IT staff
- Implemented a network that can deliver 21st century learning experiences for students and staff

The challenge

Maryland’s Cecil County Public Schools (CCPS) serves almost 16,000 students across 30 schools and employs over 2,000 education professionals. Recently, the district expressed concern about its aging network technology. In its schools and at its district headquarters (the Carver Center), computer network performance had become “stuck in the 20th-Century,” says Wally Wills, IT Services Manager for CCPS. The district needed significant improvement so educators could meet students’ needs and satisfy statewide curriculum requirements.

CCPS enlisted Data Networks to create a networking transformation at its headquarters and high schools, emphasizing the need for rapid implementation and strict budget controls.

The solution

Data Networks engineers analyzed the network infrastructure and connections at each facility to better understand the current requirements and constraints, and presented its recommendations for upgrades to CCPS. For the Carver Center, a new local area network (LAN) solution would include:

- Juniper Networks EX4200 Virtual Chassis switches
- 10/100/1,000 Mbps (Gigabit Ethernet (GE))-connection user ports
- 10GE backbone connections

For each of the high schools, a new wireless LAN would include:

- New configured wireless network equipment
- Ethernet cabling support
- New configured Ethernet switches

Of significant importance to this project was Data Networks’ Elite partnership and advanced certifications with Juniper Networks, including Ingenious Champion level engineers. Data Networks demonstrated how these solutions would not only dramatically and immediately increase end user productivity, but would also scale.

To support the Carver Center LAN upgrade, Data Networks collaborated with CCPS to document the current network and wireless environment and produce a detailed design document which included:

- IP addressing, VLANs, routing and any security configurations
- New Ethernet switch configurations
- Wireless access points (WAPs) placements
- Wireless LAN configuration and Integration with network management technology
- POE switch configuration

Simplicity through Centralization – JUNOS Space

For the CCPS project, Data Networks planned the implementations so a single instance of each solution's vital network hardware components could be created, configured and tested at the Data Networks Staging and Configuration Center (SCC). Then, still at the SCC and using a JUNOS Space Virtual Appliance, consultants copied the "master" component settings to replicas prior to delivering and installing them at the various sites. This approach ensures correctness and consistency of the final configurations. "Our practice of using a single installation appliance to configure our technology to client specifications pre-delivery at our own SCC helps guarantee that when we deliver onsite, the work gets done accurately and promptly," says MacKenzie.

At Carver headquarters, since the project required a complete LAN replacement, outages had to be properly managed. First, the new Juniper LAN equipment was installed, replacing all current equipment. Next, during designated outage periods, Data Networks engineers moved existing network connections to the new Juniper Ethernet switches until all were cut over.

At the high schools, Data Networks consultants eliminated impact on school activities by performing all building-wide Ethernet cabling after hours. Once completed, the consultants built each school's new wireless network, installed the pre-configured Juniper switches and integrated all new hardware together with the cabling, all without outages of any kind.

Installation was followed by end-to-end testing and quality control. Data Networks leads a checklist-based onsite testing effort to ensure the entire network functions according to customer specifications. A final knowledge transfer for CCPS IT staff reviewed the configurations and installations performed at each site, and confirmed they met or exceeded promised project scope and requirements.

CCPS is now positioned to provide its students and teachers with a 21st Century learning experience. As Wills emphasizes, "We have high standards for educating our students here at Cecil County Public Schools, so we need to have high standards for the network technology our students and staff depend on. Data Networks continues to be a partner we can count on to help us meet those standards."

About Data Networks

Data Networks provides effective technology-based solutions to meet your unique needs. Our solutions are specifically developed to help you drive productivity and manage change.

INNOVATIVE TECHNOLOGY

By partnering at the highest levels with the industry's most respected manufacturers, Data Networks can deliver the right products for your environment with the most aggressive pricing possible. Our strong vendor relationships also bring technical training opportunities, expedited help desk resources, and professional service liaisons for consulting and project engagements.

INSPIRED ENGINEERING

Our goal is to be your trusted technology advisor. So we staff highly-qualified engineers who bring years of experience and the most advanced technical certifications to every engagement. We assign them a single area of technical focus, a unique approach that allows them to continually update their skills and expand their specialized technical knowledge. And we arm them with documented best practices developed over more than 30 years of public-sector service.

We invite you to learn more at datanetworks.com or by calling 800-283-6387.