In Our Own Words—Prince George's County Public Schools VoIP Implementation

PGCPS
Great By Choice

The Implementation of VoIP—Lessons Learned

Maryland's Prince George's County Public Schools (PGCPS) Supervisor of Telephone Services and Data Wiring Robin Evans shares how she and her team leveraged Prince George's resources and relationships to successfully deploy 15,000 phones in one of the nation's largest school districts.

Overview

PGCPS is one of the nation's 25 largest school districts, serving over 127,000 students from its surrounding urban, suburban, and rural communities. We are nationally recognized for our innovative programs and initiatives. Frustrated with our unreliable and costly phone service, we initiated the request for proposal (RFP) process to procure a district-wide, hosted, and fully featured Voice over Internet Protocol (VoIP) telephony system. After evaluating multiple alternatives, Education Networks of America® (ENA) was selected as our partner of choice. By March of 2015, the 234-site, 15,000-phone implementation was complete, providing PGCPS administrators and staff members with a cost-effective, reliable, and streamlined voice service that meets our communication, security, and billing needs.

Objectives

The high-level goals we established for our VoIP project were:

- Increased reliability
- A unified voice communication platform
- Flexibility
- Scalability
- Increased capacity
- Cost savings

A Problematic System

Like so many large school districts, our previous voice communication framework consisted of a variety of phone systems and technologies pieced together throughout many decades with several different types of equipment, leaving 129 schools without voicemail and at least 60 to 75 schools without caller ID. Every call, whether it was professional or personal, had to be transferred by a live receptionist. This put the burden of answering a huge volume of calls on front office staff.

Our previous vendor's billing structure was also a nightmare. Each month, we received approximately eight boxes of billing documents. We had to have paper billing because the

PROJECT PROFILE

District:

Prince George's County Public Schools, Maryland

Project:

District-wide ENA SmartVoice VoIP Implementation

Principal Players:

W. Wesley Watts, Jr., Chief Information Officer

Robin Evans, Supervisor of Telephone Services and Data Wiring

Brenda Allen, Purchasing Director

PGCPS engineering team

PGCPS school-based IT technicians

PGCPS telephone and data wiring staff

Vendor Partners:

Education Networks of America, Inc.

BW Communications, Inc.,

Lanier Electronics Group, Inc.

Aruba Networks

Number of Students:

127,000

Number of Installation Sites:

234

previous vendor had so many billing addresses wrong. It took our Accounts Payable department three days each month to review and pay the phone bill.

Rain, rogue squirrels, and birds also wreaked havoc on our district's outdated phone systems. Often when it rained, some of the schools' phones would stop working because the old conduit got wet. Squirrels and birds were also a regular maintenance issue for us, shutting down one school's phone system every year with their nests. Additionally, a lack of usable copper left several locations without adequate lines. Frustrated with the district's inefficient, fragmented, and unreliable phone system, our team was ready to take our next step.
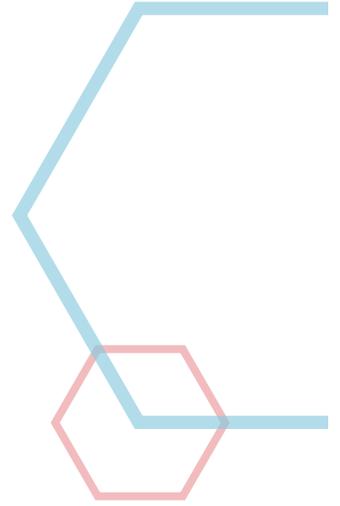
Ready for a New Beginning

Faced with a number of challenges and an escalating maintenance contract—maintaining just one of the district's phone systems cost our district $89,000 annually—our team decided to release an RFP in an effort to identify a more cost-effective and unified VoIP communication service.

The RFP process can be daunting, but our team was up for the challenge. I spoke with individuals from other large school districts that had previously issued RFPs for hosted VoIP, and I also reviewed a number of previously published RFPs. VoIP was new to us, so together with our district's engineers, our team used the model cases to identify our own specific needs and requirements. I wanted to ensure the project's scope made sense to the vendors who were going to respond.

Choosing the Right Partner

Drafting and releasing an RFP is only half the battle as the bidding process can be just as complex and time-consuming. However, our advanced and comprehensive preparation paid off when we received a manageable number of strong responses that met the requirements set forth in our RFP.

After conducting a thorough review, we ultimately decided to purchase ENA SmartVoice, ENA's managed and hosted VoIP solution. We selected ENA for its flexible pricing model as well as its willingness to accommodate our district's specific needs and challenges. ENA has been Prince George's wide area network (WAN) service provider for the past five years, so we were happy to work with a company we already knew and trusted.

In addition to ENA, our district enlisted the services of BW Communications, Inc., and Lanier Electronics Group, Inc.—both MBE partners with ENA—as well as Aruba® Networks to ensure our deployment was a success. BW Communications, Inc., has been a valuable district partner for several years and diligently worked with ENA's team to conduct site surveys, install phones, and deliver training to many of our school administrators and central office staff members. Lanier Electronics Group, Inc., has been a partner of PGCPS for over 10 years. They also worked closely with the team to ensure additional Aruba POE switches were properly installed and configured to accommodate the new VoIP equipment. Both partners' expertise and knowledge greatly contributed to our project's overall success.

Aruba Networks played a key role as well. Aruba Mobility Access Switches and its ClearPass Solution Suite simplified the installation process and provided our district with greater flexibility. Most VoIP deployments require wall-jack Ethernet ports to be designated as voice, data, or other, but all of the ports on Aruba's switches are configured the same, eliminating the need to categorize each wall-jack port and streamlining the installation process.

The Deployment

Communicate, Communicate, Communicate!

Communication is key with any new K–12 initiative, whether it be instructional or technical. To ward off any potential anxieties about the district's new voice system, we circulated a letter among Prince George's administrators that outlined our overall installation plan and timeline. Regular status updates were also sent to the district's principals as their individual port dates approached and changes were made. Weekly meetings between the PGCPS team and the ENA team kept the project moving. Regular communications with ENA Project Manager Debbie Regan kept the migration schedule, equipment ordering, port requests, and "Go Live" dates on a tight schedule.

Expect the Unexpected

It is impossible to predict every obstacle that will arise when deploying a new technology or service. Our district's size proved to be an unexpected stumbling block. ENA's typical deployment method is to install all of the phones at each site before porting the numbers over from the customer's current service provider. However, because of carrier porting restrictions within our district, ENA could only port every 45 days. To meet the required time-frame, the installation team would have had to conduct complete walkthroughs, install phones, and train users at a rate of 20 sites per month. Some of the high schools had more than 200 phones, and one administrative building had nearly 500 phones. Any sites that were not ready on the scheduled port date would have resulted in a loss of service. Had we followed the typical porting schedule, it would have taken years to complete the project.

During a large deployment, you try to plan for all scenarios, keeping in mind that "things happen." Luckily for our district, ENA Senior Product Manager Amanda Yoders had a creative solution up her sleeve. Yoders determined that ENA could port the district's main school numbers to ENA SmartVoice and then forward those main numbers back to the roll-over numbers that were still active on the old existing equipment at the facilities. This gave us the flexibility to install phones at our own pace; knowing snow days, additional training needs, or staff absences would be expected. This brilliant solution dramatically reduced the porting time and our anxiety.

Training

No VoIP deployment would be successful without a proper training plan. We decided to focus the majority of our training efforts on our office staff. We worked with ENA to make a variety of training formats available to our staff members. In addition to the training provided by BW Communications, Inc., ENA conducted onsite training sessions at a couple of our main administrative offices that went live in a "hot cut" port scenario. Additionally, ENA created a quick reference guide for PGCPS staff members and cheat sheets that included information pertaining to transferring calls, setting up voicemail, call forwarding, etc. Training videos were also made available on our district's Telecommunications Services and Data Wiring website.

New and Improved Unified District Communications

With the installation complete, we are now enjoying all of the bells and whistles that come with having a managed and hosted VoIP system, including:

- Enhanced network call quality
- Enhanced voice infrastructure with resiliency
- Voicemail to e-mail
- Numerous call-flow options
- Voicemail, caller ID, and call waiting
- Online user and administrative portals

- Conference call capabilities
- Real-time weather notifications
- 911 intelligence
- External call transfer
- Five-digit dialing across the network
- Hold music with the ability to customize music and messages

The solution's overall ease and flexibility has also been well-received. As previously mentioned, our monthly billing was a nightmare for our Accounts Payable office. Additionally, it was nearly impossible to track all of the erroneous charges on a month-to-month basis. ENA eliminated this headache with its streamlined, user-friendly billing, resulting in our phone bill going from 8,000 pages to only 2 or 3 pages. If there is an error or an issue, we are now able to identify it and rectify the situation immediately.

Lessons Learned

Deploying a new, district-wide hosted VoIP solution in one of the nation's largest school districts is no easy feat. We've compiled a list of five valuable lessons learned that we hope will be beneficial for districts looking to integrate a unified VoIP system within their own school system.

1. Communicate

Communication is an essential component of any deployment or implementation. Make sure staff members understand why the change is being made, what the overall plan is, how it impacts them, and the timeline for deployment.

2. Partnerships

Identify and create solid partnerships with key district staff and outside vendors. In addition to selecting the right vendors, we also had the vision, expertise, and support of our CIO, W. Wesley Watts, Jr., our Purchasing Director, Brenda Allen, our team of engineers and school-based IT technicians, and our telephone and data wiring staff. Having a great team enabled us to successfully migrate the district to hosted VoIP.

3. Infrastructure

It is critical to have a strong infrastructure in place when implementing any new technology. Work with technology leaders and your LAN/WAN and Voice engineers to ensure the district has the foundation and capacity to support a VoIP system.

4. Budget

Money is always in short supply in the K–12 sector, making it imperative to formulate a finite budget. Be creative when thinking of the backbone and how it will support your new VoIP network. Although it would be nice to have fully implemented POE switches across the district, we used strategically placed switches to accommodate our VoIP needs.

5. Be Flexible

No matter how much planning goes into a project, unexpected obstacles will arise. It is important to be flexible and understand that there will be surprises along the way. For example, when our installers were in need of a faster response time, ENA quickly remedied the situation by initiating a new direct phone number to their voice engineers. Having great vendor partners to help you navigate the unforeseen is a key component to success.