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IP Telephony
Contact Centers
Mobility
Services

CASE STUDY

Palm Beach County Schools Improve Services and Safety through Phased Migration to Avaya IP Telephony

Challenge:

Within a tight budget, incorporate safety enhancements and improve communications between staff and parents, and improve service to the district's homebound, Special Needs, and all students.

Solution:

A multi-year, phased migration to Avaya IP Telephony Solutions, with schools linked via a private network. The IP platform supports new public safety, distance learning, and transportation notification applications. Decreased network and maintenance costs help the project pay for itself.

Value Created:

- Enhanced student and staff safety, through IP functionality and notification software
- Enhanced transportation experience for special needs students and their parents
- Four-fold increase in number of homebound students able to be served simultaneously
- Savings of over $1.5M/year in T1 trunking charges
- 40% reduction in monthly maintenance charges

West Palm Beach, Florida —The Palm Beach County School District has earned its reputation for excellence. The district — one of the largest in the country, serving 176,000 students in 164 elementary, middle, high, and special schools — consistently focuses its resources on providing students with a safe and high-quality learning environment. The IT department is no different. Overseeing the installation and maintenance of computers, data servers, telephone equipment, and miles of trunks, cables, and inside wiring, the department has a mission that reflects its priorities: "Technology for their future, not our past."

Yet over the years, like many school districts, the district has had to make tough budget choices on how to best achieve that environment with limited funding. And some of those choices meant that investment in newer technology was deferred.

The Challenge: Inadequate Communications Threatened Safety and Effectiveness

The Palm Beach County school district has been a long-time client of Avaya, and most of its communications needs were being served by Avaya legacy switches and servers. However, each piece of equipment operated as a standalone, with an independent set of features and functions. By 2000, the county's schools and administrative offices were served by a variety of telecommunications equipment that threatened both the efficiency of school processes and the consistency of delivery.

Further, the older technology could not support today's public safety needs. *"Elementary schools were connected to the PBX systems of the nearest high school,"* said Bruce Walsh, communications network supervisor for the school district. *"That meant that the elementary schools were served by single line, analog phones. They had no caller id, no digital functionality."*

"Because the elementary schools receive their dial tone through the high school, if someone calls 911, it is the high school address that shows up on the dispatcher's screen," Walsh said. *"That extra step or two might be significant during an actual emergency."*

Reaching Out to Parents and Students

Communication with parents is critical to excellence in education. And yet, educators at many schools found that the old communications systems inhibited their ability to do their jobs most effectively. With limited access to phones and limited voicemail it was difficult for parents to reach teachers to discuss their children's educational progress. Teachers and parents were frustrated by an endless string of messages left at the main office.

The district is committed to serving each of its students with the best possible educational experience, and it takes pride in its strong focus on Special Needs students. The district added GPS systems to school buses

so they could track the positions of the equipped buses at any time. Yet, that solution didn't help parents and caretakers who needed to be prepared to meet their child's bus.

The Solution: Migrate to IP Telephony, Building On Existing Avaya Equipment

The school district turned to Avaya Global Services for an IP Readiness Assessment. *"We started with a plan to upgrade the elementary schools", explained Walsh. "When we found that we could re-use much of our existing Avaya infrastructure and still enjoy the benefits of IP technology, we expanded our plans."* The school district is now at the start of a $10M installation project, which will be phased in over several years. The new network configuration includes Avaya Communication Manager 3.0 running on an Avaya S8700 Media Servers at the school administration building, one hundred Avaya S8300 Media Servers with Avaya G700 Media Gateways in the elementary schools and an upgrade of the Avaya DEFINITY G3si Communications Servers in the high schools and middle schools with sixty-five S8500 Media Servers with Avaya G650 Media Gateways. Each S8300 Media Server is outfitted with Local Survivable Processor capability, so that if the link to the high school is broken, both dial tone and all functionality will continue at other locations.

"The flexibility of the Avaya solution was important to us," said John Dierdorff, Voice/Data Supervisor for the district. *"As a school district, we have a set budget each year, so we're not in a position to do a one-shot cutover. Avaya will allow us to migrate to IP at our own pace, a few schools at a time."*

Equally important, the district is able to incorporate its older model Avaya servers by upgrading them to support IP technology, and it can continue to use Avaya digital endpoint telephones, which are designed to work both with the new and the old servers. Dierdorff estimates that nearly 85% of their existing infrastructure will be reused in the new configuration. *"That was important to us. By not having to replace every piece of equipment, we could allocate budget toward more upgrades. So we'll have our complete network in place faster."*

When the configuration is complete, the schools will be linked together in a fiber optic 10 MHz Metro Ethernet. For endpoints, the district is using a combination of new IP phones and existing digital telephones. With an eye on cost containment, Dierdorff said, the district has adopted a philosophy of *"TDM where you must, IP where you can."* The elementary schools will each have 14 digital phones in the front office, and another 40 IP phones around the campus. Remaining phones will be analog.

Safety Enhancements

The new configuration supports process enhancements that will keep all the students and staff members of the Palm Beach Schools safer in the event of an emergency. *"Safety is a huge issue,"* said Walsh. With the new IP technology and enhanced applications, each school will have multiple safety features, including caller id and one-touch recording, which allows the recording of a suspicious call.

The robust IP technology also allows the district to install new applications that make the most of the IP functionality.

"We were at an International Alliance of Avaya Users (InAAU) conference in 2004, and saw a presentation by an Avaya DevConnect Partner, RedSky," Dierdorff said. *"The emergency notification application they presented really impressed us as something we could use."* The application will use the Avaya communications servers and RedSky software to enhance the district's internal emergency notification process. When someone calls 911 from any school phone, a notification will be automatically sent to up to 10 computer terminals, indicating where the call originated — down to the telephone set. *"The function will allow us to notify administrators that an emergency call has been made from the school, saving precious time,"* said Dierdorff, *"and at a reasonable price, as well."*

Reaching More Homebound Kids

Another great benefit supported by the new communication solution is the ability to reach homebound and hospitalized children, through the use of upgraded web-conferencing technology. *"Kids dial in to classes from home, using a conferencing application,"* said Walsh. *"We have 120 lines that can be dynamically allocated across various classes. So wherever the need is, we can switch the lines over to accommodate that class."*

"Kids who are undergoing chemo can continue their education using this solution," said Dierdorff.

Special Program for Special Needs Kids

One of the more innovative and exciting programs made possible by deploying an Avaya IP Telephony solution is a transportation notification system for Special Needs children and their parents. The district worked with Avaya DevConnect Partner, Viecore, to develop interface software linking the GPS equipment already installed on school buses to an Avaya Interactive Response application. Now, an outbound autodialer, which is part of the Interactive Response software, proactively calls parents 15 minutes before the bus will arrive at their stop, so they can be prepared to meet the

bus. Alternatively, a parent can dial into the system with a special ID code to request up-to-the-minute information on their child's bus location.

The district is considering extending the program to cover all bused students, using the same functionality.

Results: Early Success Paves the Way for Next Phase

The flexibility of the IP migration plan has allowed the district to make strides toward its meeting its goals — with cost reductions that allow the project to pay for itself.

Network Cost Reductions: The district is saving over $1.5M per year in network costs, thanks to the elimination of many of the T1 trunks that formerly connected the facilities to the public network. *"With the new fiber-based Ethernet, we will go from 850 T1s down to 180 Ethernet circuits,"* said Walsh.

Maintenance Savings: The district's skilled IT technicians are able to perform many maintenance tasks on their own. So, as part of the new plan, they swapped their extensive Avaya Maintenance agreement for a new arrangement that better meets their needs, Remote Plus Parts. *"We're pleased with how flexible Avaya has been in developing this new maintenance option. Our monthly maintenance bill has already gone down from $70K to $45K, and will go down even further as we continue our rollout of new servers."*

Safety Enhancements: The software enhancements supported by the IP platform have been applauded by parents, staff, and the local emergency services departments. *"We've been working with the County and the local police and fire departments to be sure that every phone has 911 capability,"* said Walsh. *"Previously, that meant individually programming thousands of phones,"* a task simplified by the centralized management capabilities of the new IP solution.

Going forward

"The Avaya IP migration gives us a platform for growth," said Walsh. The district is considering additional capabilities, including using a centralized outbound autodialer to notify parents of student absences.

To further help with funding, the district is also considering the Avaya Low Risk Funding offer, available through Avaya Financial Services. The special funding, available to Public Sector organizations, allows for zero-percent financing over multiple years for capital investments. *"It makes a big difference to how fast we can implement our solution,"* said Dierdorff. *"Instead of taking five years to implement the project, we can do it over two years and pay it back over five."*

In the end, it's all about the students — providing the best and safest environment for learning. And thanks to Avaya and its partners, the Palm Beach County School District is using its technology to do just that.

Learn More

For more information on how Avaya can take your enterprise from where it is to where it needs to be, contact your Avaya Client Executive or Authorized Avaya BusinessPartner, or visit us at www.avaya.com

ABOUT PALM BEACH COUNTY SCHOOLS

The fourth largest school district in Florida, the tenth largest in the nation, the School District of Palm Beach County serves over 176,000 students in 164 elementary, middle, high, and special interest schools. Through partnerships with community organizations, the district continues

to be recognized for staying in the vanguard of education reform in Florida and nationwide. Recently, the district was named among the top three school districts of its size in the nation by business monthly magazine *Expansion Management*. The district has received national acclaim for its School Safety and School Culture programs, as well as state recognition for "small, efficient administration" and "maximum dollars spent in classrooms."

ABOUT DEVCONNECT

The Developer*Connection* Program (DevConnect) is a comprehensive set of innovative sales, support, marketing and services programs through which Avaya works with members to develop and promote their products and solutions that interoperate with Avaya solutions. For more information, visit DevConnect at www.devconnectprogram.com

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Viecore, Inc. is a leading systems integration firm specializing in enterprise-level customer self-service solutions. Leveraging existing infrastructure, Viecore integrates advanced technologies to deliver comprehensive solutions to a variety of industries worldwide.

ABOUT REDSKY TECHNOLOGIES, INC.

RedSky Technologies is a telemanagement software and services provider that enables enterprises to realize the highest possible returns on their investments. RedSky has maintained a solid and profitable growth record for many years. To strengthen its capabilities, RedSky has also developed solid business relationships with Avaya and its BusinessPartners across the United States to sell PBX software solutions to commercial and government customers.

Applications	Systems	Services
• Avaya Communication Manager 3.0 • Avaya Interactive Response • Avaya Meeting Exchange™ (including Avaya CS700) • RedSky Emergency notification software • Viecore Transportation Notification application	• Avaya S8300 Media Servers with Local Survivable Processor • Avaya S8500 Media Servers • Avaya S8700 Media Servers • Avaya 4600-series IP Telephones • Avaya 2400-series Digital Telephones • Avaya G650 Media Gateways • Avaya G700 Media Gateways • Avaya DEFINITY® G3si Communications Servers	• Avaya IP Readiness Assessment • Avaya Network Assessment Services • Avaya Remote Plus Parts Maintenance

All statements in this Case Study were made by Bruce Walsh, Communications Network Supervisor, and John Dierdorff, Voice/Data Supervisor, Palm Beach County Schools.

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