



200 West Somerdale Road, Suite D
Voorhees, NJ 08043
Website: <http://www.avbcs.com>



Deptford Township High School

**AV Business Communication Systems Case Study:
Upgrade of Deptford Board of Education's Telecommunication Equipment
To Voice Over IP (VoIP) Campus—9 Locations**

By: Ginny Nims, The "*Telecom Lady*"

AV Business Communication Systems (AVBCS) has had the pleasure of serving Deptford BOE with its telecommunications equipment needs since 1999.

At that time, we were awarded the project of installing Iwatsu Voice Networks ADIX-APS Digital PBX systems with individual voicemail systems within each of their eleven facilities.

This technology helped Deptford's administrative and teaching staff to be more productive in communicating with one another and with the parents of their students.

In some of the schools, digital speakerphones were installed in order to replace separate intercom systems that could only be accessed by the Main Office staff. Phones in the classrooms allowed other employees to reach individual teachers without bothering the main office personnel. In total over 400 telephones were installed throughout the district.

Individual mailboxes for administrative and teaching staff made communication much easier. Parents could leave messages for teachers during the day right into their mailbox. During free time, teachers could return calls from parents and also use their mailbox's personal greeting to record homework assignments so parents could check to make sure that their child's statement, "there's no homework tonight", was actually true.

Now, it's 2010 and the way that we communicate with one another has changed dramatically. Here are a few of the reasons:

- The cost of internet service has decreased allowing Districts to obtain much greater bandwidth capacity that can be used both for data and voice transmission.
- Voice over IP (VoIP) technology has become more and more reliable allowing Districts to route calls over their data network. This technology eliminates the need to maintain two separate networks – one for data and one for voice that couldn't communicate with each other.
- Schools are spending more on local and wide area computer networks both for student classroom training and communication between staff members via voice, email & instant messaging. More classrooms have computers for use by teachers and students.
- More software programs are now accessed via the web instead of direct connection modem or special circuit lines.

Deptford BOE needed to upgrade their aging ATM data network to an Ethernet network to meet the

growing requirement for more bandwidth for classroom instruction and web access but lacked the money within their budget for this expansion.

When Ken Kling, Deptford's School Business Administrator, mentioned to me that they were considering this upgrade to their wide area network, I mentioned that they could also carry their voice traffic over the Ethernet network as well. We reviewed their telephone service bill and discovered that the District was using approximately 100 "POTS" lines (plain old telephone service) lines for their incoming and outgoing voice traffic. These lines were costing the District over \$5,000 per month for line rental, fees and calls.

But, what would the cost of a brand new VoIP telephone system be with over 400 phones? Not as much as you would think because of Iwatsu Voice Networks' commitment to its customers and Authorized Distributors in the following areas:

- Perpetual Architecture Design – even its first ADIX Digital PBX manufactured in 1989 can be upgraded to VoIP & SIP technology without the loss of the customer's original investment in cabinets, cards and digital telephones
- Iwatsu has been manufacturing telecommunications equipment since 1939 and is a world leader with some of the best "Mean Time Between Failure" (MTBF) statistics within the telecommunications industry. The reputation of Iwatsu is firmly established on a foundation of the highest quality in the industry in design, engineering, components and manufacturing as well as quality control.

To add VoIP protocol to Deptford's ADIX PBX systems, Iwatsu's Enterprise Communication Server (ECS) was connected to each system with a special upgrade kit that connected the two cabinets together using SCSI-type cables. The ECS system cabinet contained a media bridge unit that provides IP-to-Digital conversion so that the existing digital telephones can be used over an IP network. Iwatsu's technology allowed Deptford to continue using its 400+ digital phones with the new VoIP system – this was a tremendous savings in equipment. It also made the conversion very easy for staff members because there was very little training required. Iwatsu's IP telephones can be added for those employees that would benefit from it. The ECS cabinet provided the ability to connect to the new Ethernet wide area network.



The High School was chosen as the hub of the network and all of the Districts calls ring into the system there and then, based on the number dialed, are directed to the appropriate individual school automated attendant or employee telephone by the ECS system over the data network. The system supplies full feature transparency to all locations bringing in the nine separate locations into one system just as if they were all in the same building. Intercom calls are made to other buildings over the network just by dialing the employee's extension at no cost. If there is no answer or the phone is busy, the caller drops into the employee's mailbox.

The District now shares one Unified Communication voicemail system that, in addition to standard automated attendant and individual mailboxes, also provides unified client licenses that allow employees to manage their calls on their computer screen with just a click of their mouse. The unified client license also allows the staff member to easily change their status to several different choices such as "Away on Business", "On Vacation", etc. The system can use "Find Me/Follow Me" to reach an employee with just the use of one number rather than dialing several different choices. When a staff member is out of the office, their presence status can reflect that but if they make themselves "available", calls will be directed to the phone(s) they designate. If a staff member is on the phone and a quick question needs to be answered, the system's LANTalk corporate instant messaging program can be used. The question pops up on the person's computer screen and they can quickly type the answer without interrupting their call.

AVBCS' sales person, Ginny Nims, worked with Verizon's representatives to present an analysis of their current expense for both the ATM network and their POTS lines compared to a new 10 MB Ethernet network coupled with the addition of a fully converged Iwatsu Enterprise Communication VoIP system. Because of the capability to port over the district's telephone numbers to their data network, this eliminated the need for the 100 POTS lines. This also provided the District with lower rates for their outgoing calls and free intercom calling between their nine locations.

The bottom line was that Deptford Board of Education was able to expand its data network to 10 Mbs at all of its nine locations and upgrade their telephone systems to VoIP connectivity over this network for the same monthly expense of their existing older ATM data network and telephone systems utilizing POTS lines for voice traffic – **a win-win solution!!!!**



It's no wonder that Ken Kling received a Distinguished Service Award from NJASBO for his consistent work to take advantage of all avenues of savings for Deptford Board of Education.

Ken stated that, "Ginny's knowledge of both VoIP equipment and the telephone services was invaluable during the evaluation process to see if the upgrade was possible at no cost to the District". "After the job was sold, the expertise and excellent follow-through of AVBCS' technical engineering management staff, George Dennison and Mike Palumbo, made the transition to the new system an easy process".