St. David’s Dental Program Impacts Community Healthcare

Cradlepoint Enables In-Vehicle Network to Serve 11,000+ School Children Each Year

SUMMARY

Based in Austin, Texas, the St. David’s Foundation Mobile Dental Program operates a fleet of nine mobile dental clinics that serve the Central Texas region. Connecting the clinics to its main office using 3G technologies resulted in recurring network interruptions and slow speeds, both of which caused problems with The Foundation’s ability to synchronize each clinic’s sensitive patient healthcare database with the central database. By upgrading to Cradlepoint’s 4G LTE platforms and Enterprise Cloud Manager, The Foundation now has stable, highly available network connectivity, the ability to quickly synchronize each dental clinic’s database, and centralized cloud-delivered network control.
CUSTOMER PROFILE

The St. David’s Foundation is a regional non-profit health foundation that provides grant funding in six programmatic focus areas: Healthy Smiles, Healthy Living, Healthy Aging, Healthy Minds, Healthy People, and Healthy Futures. In 2014, The Foundation invested more than $55 million in grants to over 65 health-related non-profits in Central Texas. As part of its investments, The Foundation also funds and operates the St. David’s Dental Program, a flagship direct service program.

Established in 1998, the St. David’s Dental Program offers free dental screenings, preventive, and restorative dental care to children at Title I elementary schools across six school districts in Central Texas. Each of the nine dental clinics is equipped with two dental exam rooms, digital X-rays, and computer workstations. The St. David’s Dental Program is staffed with full-time licensed dentists, hygienists, dental assistants, and operations staff.

The program has made a significant impact over the years. During the 2014-2015 school year it served 65 elementary schools and provided free dental screenings to over 28,000 children. Over 11,000 children received free preventive and restorative dental treatment via the dental clinics. The total value of free dental services rendered to the Central Texas community through the St. David’s Dental Program was $9.5 million. The program is recognized as a leader in the mobile health industry, and is a member of the Mobile Health Clinics Association, the premiere national trade association for mobile health providers.

BUSINESS NEEDS

Over the last decade, the program has made great strides in using technology to make its dental services more efficient and effective. Nevertheless, the organization still faced challenges providing the mobile clinics with the stable, high bandwidth network connection needed to synchronize patient data, monitor and manage data usage, and secure both patient information and the clinics themselves.

SOLUTION

St. David’s Foundation saw an opportunity to improve the program when 4G LTE services became available in the Austin, Texas area. While its previous 3G-based data synchronization was a vast improvement over the preceding manual solution, it was still prone to network failures and unbearably slow speeds.
The regional cellular provider recommended Cradlepoint as a way to implement a new 4G LTE solution. After further research, they implemented Cradlepoint Enterprise Cloud Manager and COR IBR600 series routing devices, upgrading to COR IBR1100 devices as they became available, and a selection of Cradlepoint web-filtering and browsing-control applications.

**BENEFITS**

**IMPROVED DATA SYNCHRONIZATION**

The Foundation’s first order of business was to improve its ability to synchronize its central database with each of the nine mobile dental clinics. In the past, its ability to sync databases, including dental X-ray images, was often thwarted by network bottlenecks and slow transmission speeds. The high availability and uptime of the Cradlepoint-enabled network now enables each clinic to securely and quickly synchronize data whenever cellular signals are available.

“If one of our mobile clinics loses its Internet connection while visiting a remote school, our clinical charting and imaging system can still work independently. As soon as the clinic is reconnected to the Internet, database replication resumes,” Madge Vásquez, St. David’s Dental Program Director of Dental Operations said.

**IMPROVED CLINICAL OPERATIONS**

The high availability and stability of the 4G networks has resulted in significant operational improvements, freeing the clinical staff to focus on patient care instead of network problems.

“OUR CRADLEPOINT-ENABLED NETWORK CONNECTIVITY HAS BROUGHT NEW EFFICIENCIES TO OUR CLINICAL AND OPERATIONAL WORKFLOW. IT ENHANCES PRODUCTIVITY AND FACILITATES SMOOTH DELIVERY OF CLINICAL SERVICES FOR PATIENTS AND STAFF. HAVING A STABLE NETWORK MEANS THAT IMPORTANT HEALTH INFORMATION AND TREATMENT DATA IS ACCESSIBLE AT THE MOBILE CLINIC AND READILY AVAILABLE FOR DENTAL PROVIDERS.”

— MADGE VÁSQUEZ, DIRECTOR OF DENTAL OPERATIONS

**REDUCED IT STAFF LOAD**

Maintaining network connectivity to a fleet of vehicles loaded with digital medical equipment used to take up a disproportionate amount of IT staff time. From finding the source of network failures to correcting data-synchronization errors, IT was spending far too much time putting out fires and not enough time improving internal customer service.

“We started deploying Cradlepoint solutions in 2012 and almost immediately saw our daily and weekly helpdesk ticket streams drop off,” said The Foundation’s IT Director, Todd Waldron. “Our VPN is more stable and data synchronization is seamless. Our database synchronization now completes its process in an average of two minutes — which is a blink of an eye compared to how long the process used to take on our previous 3G connection.”
Waldron stated Enterprise Cloud Manager helps his team quickly pinpoint connection failures.

“When a staff member contacts our helpdesk to report an Internet outage, we use the Enterprise Cloud Manager to quickly determine if the site is online and we can immediately see whether or not the site is connecting to VPN and/or public traffic.”

CENTRALIZED CONTROL

Enterprise Cloud Manager enables Waldron’s IT staff to do everything from configuring routers to managing data—all from one central location. With large text and image files being constantly sent across the network, the IT staff make optimal use of Enterprise Cloud Manager’s ability to provide live data monitoring.

“It’s very helpful for us to be able to see our data usage in real-time,” said Waldron. “The usage reports we pull from our mobile carrier only reflect the amount of data we used in a previous billing cycle. Having the ability to monitor our data usage day to day provides us an opportunity to be proactive and adjust our data plans as needed and address any overage spikes as they occur.”

Waldron’s ability to manage the network from a central location also extends to browser filtering. The Foundation’s IT staff uses Enterprise Cloud Manager to lock down streaming for each dental clinic to prevent unwanted use, but it can also open up Internet access when appropriate.

“The clinical staff needs to be able to access video streaming sites for Clinical Education. With Enterprise Cloud Manager we can temporarily adjust the content filters on a specific network to facilitate staff access. Since some of these education videos can run for 20 or 30 minutes they can potentially eat up several gigs of data in a day, which is why content filtering and real-time data monitoring is essential.”

EXTERNAL ANTENNAE USE

The mobile dental clinics are 40-foot customized specialty vehicles. The IT team uses external antennae to provide each mobile clinic with a strong cellular signal. Other vendors The Foundation tried did not offer the ability to mount external antennae that could be automatically sealed. Most vendors opted for window-mounted antennae instead, which did not fit their needs.
IMPROVED SECURITY

To protect against theft and vandalism, the Cradlepoint solution enables IT staff to remotely monitor security cameras mounted on each clinic. Services available through Enterprise Cloud Manager enable The Foundation to monitor its network and protect against unwanted intrusion into patient records.

FUTURE-PROOFING

In a world of rapidly evolving technology, it is important for IT Director Waldron to have a trusted technology partner that can help him separate the latest fads from solid solutions.

For more information about St. David’s Foundation and the Mobile Dental Program, visit stdavidsfoundation.org.

“WE’RE ALWAYS LOOKING TO CRADLEPOINT TO SEE WHAT’S ON THE HORIZON – AND WE ARE INTERESTED TO SEE WHAT NEW FEATURES ARE BEING DEVELOPED. THEY’VE BEEN SUCH GOOD PARTNERS THAT ANYTIME WE GET QUESTIONS FROM OTHER MOBILE HEALTH ORGANIZATIONS ABOUT HOW WE SOLVE NETWORK CHALLENGES, WE REFER THEM TO CRADLEPOINT.”

– TODD WALDRON, IT DIRECTOR