San Jose Police Department

California Police Department Leverages Integrated 3G and Wi-Fi Communications to Create a Mobile Office Environment in Patrol Cars

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Located in northern California’s bay area, the San Jose Police Department (SJPD) is administered by a command staff, including the Chief, Assistant Chiefand four Deputy Chiefs, who preside over an Operations Command divided into four Bureaus. SJPD employs more than 1,300 sworn officers in its Bureaus,comprised of 11 divisions with more than 67 specialized Units and assignments, and is responsible for the safety of the more than one million people residing inthe nearly 180 square miles that compose California’s third largest city.

Business Challenge

With the creation of more than 100,000 reports each year, accessing archived records required a staff working overtime for up to 45 days to pull boxes byhand from a central warehouse, a costly and time consuming process. In addition, the opening of an additional substation planned for fall 2010 will forcemembers of the department’s Records Division to travel to the new location nine times a day to collect paperwork for processing.

Deputy Chief Diane Urban, who heads the SJPD’s Bureau of Technical Services (BTS), and her team have been working for several years to decentralize anddigitize SJPD’s records and field communications systems. The legacy

solution consisted of an in-vehicle laptop connected to a mobile data terminal (MDT)integrated with a GPS tracking system for a dispatcher to locate the nearest patrol car to an incident. The mobile communications piece of the solution wasenabled by Radio Data Link Access Protocol (RD-LAP), which could not provide a reliable connection and caused several performance issues. With persistentcommunications problems, it was clear to the BTS that a more reliable solution was needed.

“We needed a scalable platform that would take us into the future, including camera systems, video and remote sensors and communications equipment,”said Deputy Chief Urban. “We are going to send reports seamlessly, wirelessly – via a truly integrated paperless reporting and management system.” Urbanwent on to say, “Technology is the way of the future, it’s all about regionalizing services, being more efficient and more transparent. Everyone expects quickerresults, and we have the responsibility to provide that to the public.”

The BTS teamed with Feeney Wireless, a full-service wireless and mobile broadband solutions provider and Sierra Wireless partner, to solve theirconnectivity issues and help them design a new wireless, electronic reporting system. SJPD was trialing an electronic citation pilot using 194Wi-Fi-capable handheld devices that allowed officers to create electronic tickets and download records directly from the device once they returnedto the SJPD main campus. To eliminate the limitation of having to download data from the handheld devices only at the main campus, Feeney Wirelessintroduced their innovative CIRA product (Cellular Internet Routing Appliance) with integrated 3G WWAN, router, Wi-Fi access point and GPS.The 3G CIRA solution would enable data to be downloaded in real-time from the patrol car in the field.

Once exposed to the CIRA, Deputy Chief Urban saw SJPD’s digital future evolving toward the real-time data transfer and pervasive connectivityoffered by wireless broadband for the department’s many electronic solutions projects. Leveraging 3G broadband data was squarely in line withthe ultimate goal of establishing a complete, automated field report (AFR) service, including e-citation, mobile fingerprinting and a comprehensive records management system (RMS).

Feeney Wireless CIRA™ Solution - Powered by Sierra Wireless ALE OS™ Embedded Intelligence

“As technology changes, so do we,” explained Urban of her decision to deploy the Feeney Wireless CIRA wireless connectivity solution. The BTS’goal was to support real-time broadband information exchange for their mobile

fingerprinting project, which allows officers to immediately reportcitations and fingerprint information back to the main campus. In turn, investigators could search the Automated Fingerprint Identification System,or AFIS, to report back to the field officer in real-time any outstanding warrants or past criminal activity, including mug shots.

“Connectivity is critical because you need that constant connection for officers in the field all the time,” added former BTS member Dave Knopf,who assisted with many of the SJPD’s electronic decentralization projects.

While the cornerstone of the CIRA GPS solution is the integrated Wi-Fi router that Feeney Wireless President Bob Ralston refers to as the “vehiclecommunications gateway,” the intelligent 3G connection is provided by a Sierra Wireless AirLink™ Gateway. Powered by ALEOS™ intelligence, theAirLink 3G Gateway, embedded in the CIRA device, enables a consistent, reliable cellular broadband connection, and enables the CIRA platformto work with AirLink device management tools to simplify management of remote assets, and other devices used in law enforcement field service applications.

“The embedded intelligence and connectivity capabilities provided by ALEOS and AirLink software create a robust, scalable and very dependableexperience for our customers” said Bob Ralston. “When providing solutions for law enforcement, reliability is extremely critical and is a matter of officersafety. ALEOS provides that assurance for our customers.”

SJPD began installing the CIRA in its patrol cars, providing dispatch with consistent, secure connectivity to GPS location information and enablingofficers to file citations in real-time using their WiFi enabled e-citation devices. “When it came to introducing the AFR, we were looking for asolution that would tie everything together: location-based dispatch, e-citation, mug shots, fingerprinting, RMS, and this solution meets that need,” said Knopf.

To further enhance the mobile office environment in the patrol cars, Feeney began working with the BTS on a mobile ID project that will automatesuspect identification. The initial roll-out consisted of a sample of 29 broadband fingerprinting devices.

“We are taking a patrol vehicle – the most costly asset a police department has – and turning it into their wireless mobile network,” said Ralston. “Byproviding a 3G enabled Wi-Fi gateway to connect almost any device, and instantly communicate with central servers, we have created a trulyscalable process that simplifies the addition of new technologies into their operations.”

“Law enforcement wouldn’t be able to move forward without partners like Feeney Wireless,” said Urban. “We truly appreciate their

commitment and efforts to partner with San Jose Police Department.”

Results

With the CIRA solution, powered by embedded ALEOS intelligence, the SJPD has implemented a comprehensive in-vehicle mobile solution enablingofficers to connect to the department’s main campus through a number of specialized law enforcement devices, creating a wireless office environment wherever they are.

SJPD plans to deploy its integrated in-vehicle solution over a 36 month period. The total deployment will include 452 patrol cars scheduled at five installations per day.

“The CIRA not only connects officers with technology from the main campus, but, thanks to the embedded ALEOS intelligence, it allows the main campusto connect to and remotely manage the numerous devices in the field,” said Knopf. “With dwindling budgets and personnel resources, the ability to simplifymanagement and reduce maintenance time becomes even more important.”

Officers can now submit citations and other field reports in real-time, reducing gas expenses and trips to and from campus to submit paper forms ordownload stored electronic information. Officers also have immediate access to all critical law enforcement data, from department policies to recordedfingerprints and mug shots. All of these capabilities provide the efficiencies and cost reduction sought by Urban and her team on their mission to eliminatecentralized, paper-based record keeping, while providing an environment in which officers can more effectively perform the job of keeping San Jose communities safe.

The CIRA Wi-Fi routing solution provided the San Jose Police Department withthe following benefits:

- Reliable connectivity – ALEOS intelligence provides always-on and always-aware connectivity required for critical mobile data applications.
- Mobile office environment - The mobile Wi-Fi network enables a multitude of external devices to be connected, such as handheld devices for fingerprint scanning, cameras, video systems and remote sensors.

- Cost and time savings – Mobile field reporting eliminates patrol car trips to main campus, as well as the extended staff and storage space required to manage paper records.

- On-demand access to real-time information – Intelligent, 3G cellular solution offers reliability and immediacy provided by real-time two-way communication data available anytime, and accessed from anywhere in the world.

- Resource management – AirLink device management tools provide the ability to manage and maintain the CIRA and its many connected peripheral law enforcement devices.

- Enhanced emergency response – GPS tracking provides the ability to acquire patrol vehicle location for quick, accurate dispatch without interruption.

- Product support – Feeney Wireless stands behind its product and works together with Sierra Wireless to provide reliable, quality solutions.

Application: Field Service + Logistics

Customer Critical Challenge:

- Needed to centralize and digitize access to remote substations

- Legacy in-vehicle reporting and data access solution for patrol cars was plagued by inconsistent connectivity

- Required real-time connectivity for Wi-Fi-capable handheld devices to allow officers to create electronic tickets and transmit information back to SJPD’s main campus

Solution:

- Feeney CIRA powered by the AirLink™ gateways with ALEOS intelligence provided reliable, secure broadband communicationsin patrol cars to extend main campus technology and create a mobile office environment in patrol cars

Benefits:

- Secure, reliable connectivity for real-time reporting and access to mission critical law enforcement databases
- Mobile 3G/Wi-Fi access point transforms the vehicle into a mobile gateway which provides connections to any Wi-Fi enabled law enforcement device
- Unmatched product support
- Cost and time savings through reduced travel and paper-based records management
- Enhanced emergency response from GPS location tracking used by dispatch