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Paving the Way

A data system in southeast Michigan builds a pathway to better information sharing between agencies

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"Criminals don't recognize boundaries," says Sgt. Dan Loftus of the Livonia (Michigan) Police Department.

Neither should police departments. It's critical for agencies to share information about criminals and their crimes in order to catch today's "cross boundary criminal."

Few of today's law enforcement agencies challenge the validity of an information sharing system but many departments stumble in its execution. But for public safety agencies in southeast Michigan (which include the cities of Oakland, Macomb and Wayne, and Genessee, Livingston, Macomb and Washtenaw counties), this is no longer a problem. Their information system, CLEMIS, an acronym for Courts and Law Enforcement Management Information Systems, has already paved the way.

What is CLEMIS?

For these Michigan agencies, CLEMIS has been a highly sought after and coveted organization with which to participate in. Anyone working in this region knows of its success and benefits, and others around the country have heard what makes this collective effort so great. But what exactly is it?

CLEMIS is a unit of the Department of Information Technology for Oakland County, Michigan. Oakland County Chief Information Officer Phil Bertolini oversees the unit, while CLEMIS operations are managed by Joe Sullivan, who is a retired chief of police from Ferndale, Michigan, and no stranger to the issues facing public safety administrators and first responders.

CLEMIS has evolved from a batch reporting system to a sophisticated county-wide database through the active participation of county and local law enforcement agencies. Although the batch reporting system format was originally established in 1968 with only three departments (and the existing database was first implemented in 1982), the scope and complexity of services, the number of participants and the volume of data has expanded over the years to the level of service provided today.

CLEMIS currently supports the following services and systems for public safety: computer aided dispatch (CAD) with geographical information system (GIS) support, mobile/MDC data communications, a robust records management system

(RMS), prisoner processing (electronic fingerprinting and mugshot systems), and personalized training services combined with a professionally staffed 24-hour help desk.

Organizational history

Although originating in 1968, the CLEMIS organization as it appears today was modeled after the Michigan Law Enforcement Information Network (LEIN) organization. General policy concerning the philosophy, concept and operational principles of the LEIN system is based upon the recommendations of the LEIN Policy Council, which was established (in Michigan) by Act No. 163 of the Public Acts of 1974, and is comprised of top administrators from local and state criminal justice agencies.

The CLEMIS Policy Committee was officially established by County Executive Order in 1976. The CLEMIS Policy Committee was renamed the CLEMIS Advisory Committee under the direction of a new county executive in 1994.

The CLEMIS Advisory Committee provides direction and sets policy for all participating agencies. Some of its areas of responsibility include: data security issues, support of CLEMIS application development and approval of new participants. The committee is comprised of representatives from Oakland County local public safety administrations, as well as officials from other participating agencies. The board is well organized to establish equality and shared responsibility for decisions that affect the membership. It meets on a quarterly basis and follows a very informative and demonstrative agenda, which is open to all participants who may send a representative to attend.

Within the CLEMIS Advisory Committee are nine sub-committees, including: the Bylaws Consortium; Fire Governance; PSAP Coordinators; Radio Oversight Security & Privacy; Strategic Planning, Systems and Programming; and User and Terminal. At each advisory board meeting, agenda items covering the quarterly progress in these sub-committees is reviewed. In addition, any future projects are also presented at this time. This helps maintain a proper flow of information and removes any speculation as to the progress of ongoing improvements to services.

How do they do it?

Over the years, the largest boost to the consortium's expansion and success came through a \$17.6- million award from the 1999 COPS MORE Technology Grant. This grant gave CLEMIS the necessary funding to leverage its technology and resources. Outside of this funding assistance, CLEMIS members maintain the bottom line of finances through membership fees.

There is a tier-based system by which departments join CLEMIS. Departments are billed accordingly based on their use of the system by active users and sworn officers. Their participation in the tier system assists agencies in saving money by consolidating resources. It also gives participants better leverage in acquiring the latest technology, all the while helping CLEMIS establish a proper budget to maintain services and ensure its success. As part of their membership, participating

agencies also pay a reduced fee for the cellular charges incurred for mobile connectivity.

Improving data communications

CLEMIS has more than 480 miles of 1-GB fiber network in place to support its endeavors. CAD systems are dually supported by an ISDN backup line to ensure critical services are maintained. In addition to housing its main IT headquarters in Oakland County, there is also redundancy located in Livonia, Michigan.

Loftus, whose agency has been a CLEMIS participant since 2001, reports the Livonia PD's move to join CLEMIS was an ice breaker that brought many other Wayne County police agencies on board. "More and more agencies have realized the importance of sharing information in order to catch the criminals and make the officers safer on the street," he says. "CLEMIS is the best solution [for this]. When agencies pool their resources, including information on criminals and their crimes, more avenues for catching the 'cross boundary criminal' become available."

He says that when the PC and Internet revolution began to affect Wayne County agencies over the last few years, the timing was perfect to join the CLEMIS consortium. The move, he says, allowed these agencies to take advantage of the pooled information and support structure that CLEMIS provides its members.

According to Loftus, Sullivan and then Livonia chief of police, current Director of Public Safety, Peter Kunst met in 2001 to discuss sharing information and resources. At the time, Livonia was replacing its IT infrastructure including its RMS, CAD and MDCs. As a result, Livonia joined CLEMIS and became operational on CAD and MDCs in the fall of 2001.

Redundancy between CLEMIS and Livonia consists of two mirrored Hewlett-Packard nonstop tandem computers, one at each agency, according to Loftus. "These computers are known to have 99.999 percent uptime," he says. "By way of comparison, computers that have a 99.7 percent uptime are still down 26 hours a year." The agencies are connected via fiber as well as T-1 for a secondary connection should one fail, he adds.

CLEMIS funded fiber connectivity for the redundant tandem, which entailed running fiber optic lines from Farmington Hills, Michigan, to the Livonia PD. The City of Livonia funded the initial hardware purchase of the second tandem at Livonia, and all additional funding for updates and current maintenance is provided by CLEMIS. As a result of the CLEMIS design, all MDCs (over 1,300 units now) and all CAD centers in CLEMIS can maintain operational needs should one tandem fail or a disaster occur at one of the agencies, Loftus reports.

Benefits of membership

Any administrator can relate to the headaches and turmoil in establishing budgets to cover technology maintenance agreements and negotiating them every year. To add to the frustration, technology services constantly must be updated and

upgraded to maintain their efficiency. With the services provided by CLEMIS, technology can be maintained and managed in a more simplified manner.

CLEMIS finalizes all hardware and software specification under a county bid process, which simplifies the procurement process for participating agencies. And, standardization across CLEMIS membership provides better compatibility of information sharing processes and more effective crime fighting tools.

One such example, the current booking applications provided by CLEMIS, which includes an integrated mugshot system from Dynamic Imaging Systems called PictureLink and livescan printing devices from Identix Inc., allows for better management of processed prisoners. These integrated devices, and the management of the data they generate, provide a powerhouse of collective information at the fingertips of participating agencies. The PictureLink mugshot system provides a Web-based interface that allows investigators to compile photo lineups and actively search image data from any CLEMIS agency.

Lt. Kim Rossman of the Oakland County (Michigan) Sheriff's Office, which heads the Identix and Dynamic Imaging projects for CLEMIS, says, "by linking the PictureLink mugshot record with the fingerprint record, all investigators will benefit from the associations that are created as part of the back-end system processing. The new system combined with the livescan/AFIS architecture will give investigators greater information than ever before."

Rossman also adds that this upgraded technology provides agencies "the ability to retrieve images, search on over one hundred data fields, and create line-ups, witness sessions and reports." Agencies also may use the facial recognition tool built into the PictureLink.net application. This system will be available from mobile MDC units to first responders sometime this year.

The residual effects of such criminal tracking and accountability applications can be further projected through comparison with RMS and CAD data. The CAD and RMS systems are integrated with a business objects' data miner and reporting tool known to CLEMIS agencies as InfoView.

The best is yet to come

The consortium plans to roll out its Net RMS system organizationally in 2006. Originally developed by CrisNET, which was recently acquired by Motorola, the Net RMS system brings a true field reporting system to CLEMIS participants. Net RMS will not only provide a comprehensive and user-friendly records management system for routine incident reports, but also will include useful modules for detailed statistical reporting, employee management, resource management and property management. It features a departmental bulletin interface that allows administrators to relay information across an organization.

The Dearborn Police Department is currently deploying Net RMS functionality to its mobile units, as the 2006 calendar year began the department's migration from the CLEMIS legacy mainframe records system to the much improved Net RMS. Taking

the "paperless" approach has its internal administrative challenges in Dearborn, but with some minor adjustments, there is much to gain in the form of resource allocation, first responder report writing efficiency and statistical data retrieval, notes Lt. Karen Ehlert, who heads the Dearborn PD's IT Unit of its Support Services Division.

Addressing such administrative issues, Ehlert says, is often the most difficult part of deploying new technology. "Modifying policy and procedure from a paper system to one that is paperless can have its challenges," she admits. "Having a complete and thorough understanding of workflow and case management, and how to address those issues from a paper to paperless system, is imperative to a successful migration."

Rossman reports the following advancements will also be added to CLEMIS in 2006 and 2007: regional AFIS, portable in-car biometric devices, as well as automated wants and warrants check from fingerprint submissions.

CLEMIS membership is limited to southeast Michigan agencies surrounding Oakland County. Anyone wishing to acquire additional information on CLEMIS should visit www.clemis.org. The Web site and the online documentation available to visitors speaks volumes about this organization's professional nature, and would serve as an excellent first step to anyone looking to model a similar effort elsewhere.

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