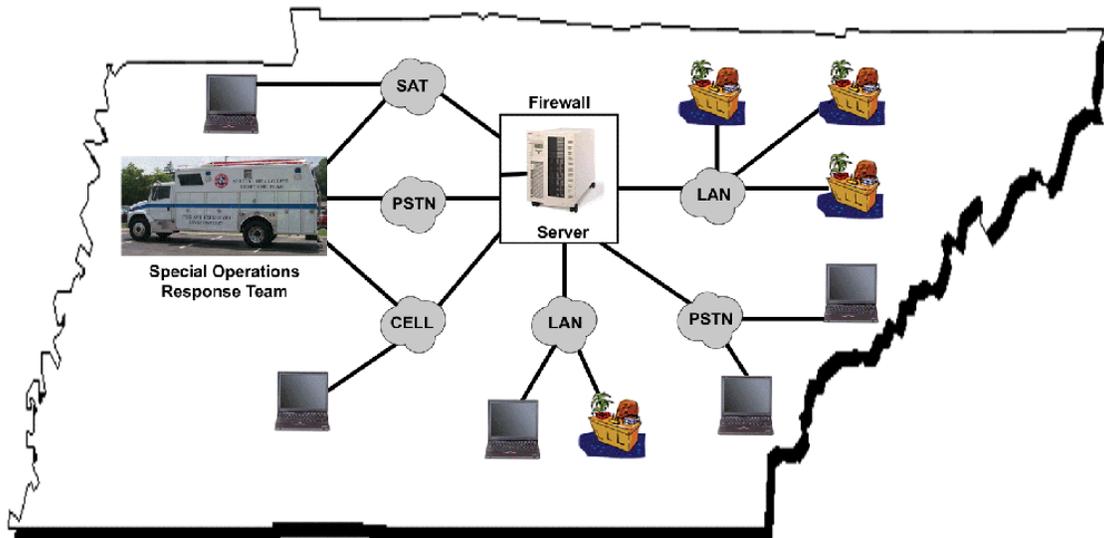# The ARSON INTERVENTION & MITIGATION STRATEGY 2000
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NIBRS Compliant Law Enforcement System Demonstrating Federal, State & Local Agency Interoperability

Federal Emergency Management Agency • United States Fire Administration
Arson Intervention and Mitigation Strategy 2000 (Tennessee Project)

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Introduction

On April 19, 1995 domestic terrorists destroyed the Murrah Federal Building in Oklahoma City. The subsequent multi-agency, multi-jurisdictional crime scene investigation activities made it painfully obvious that large-scale criminal event investigations required more information management sophistication than was currently available.

The Arson Intervention and Mitigation Strategy 2000 initiative evolved from the information collection, analysis and sharing challenges encountered in Oklahoma City.

The need for this capability was emphasized on September 11, 2001 when terrorists attacked both the World Trade Center and the Pentagon.

The project's strategy centered on "the operational issues associated with investigative information collection, access, and transfer being accomplished in a timely, cost effective, and efficient manner, utilizing standardized systems applications and equipment." In other words, the AIMS 2000 initiative was designed to foster the shift from the traditional methods and processes of collecting and use of crime-based intelligence data to a more inclusive, standardized, interoperable technology-based, model.

The Demonstration Project Precursors

After a substantial review of various systems configurations and related equipment platforms and capabilities an operational Department of Defense Intel program equipment configuration known as the Counterintelligence/Human Intelligence Management System Product Manager (CHIMS) was considered to provide the most robust variety of capabilities with respect to complex information collection in austere operational environments. The CHIMS equipment configuration was designed for the collection and transfer of critical information utilizing a variety of communications means, generally in a security sensitive mode.

As the fundamental information collection and sharing capabilities of that system seemed most closely related to the investigative functions and law enforcement activities of Fire / Arson Investigators, the initial operational concept for AIMS 2000 rested on that model. To maximize the benefits of the intended "military technology transfer" the AIMS 2000 initiative utilized the same methodology and computer-based hardware platform, while focused on the specific investigative work product and related tasks.

The technology transfer envisioned would pair the CHIMS system's varied capabilities to the desired arson & bomb investigation activities and information collection / case documentation requirements, in a cost effective and deliberate fashion. The project would attempt to introduce the technology change in such a way as to not only increase

the quality and quantity of electronic data and investigative work product but to also decrease the amount and complexity of the aggregate tasks for the investigators.

The project's ultimate success would depend on the ability to replicate the "tool" and the salient "lessons learned" for other disparately situated law enforcement agencies across the United States.

Project Beginnings

AIMS 2000 is a unique and evolving initiative between the Federal Emergency Management Agency / U.S. Fire Administration (FEMA / USFA), the Tennessee Valley Authority (TVA) Police, and other public and private sector partnership participants. The partnership is intended to dramatically enhance the investigative efficiency and effectiveness of fire / arson unit investigative personnel, utilizing functionally adapted "*military technology transfers*" and "*Commercial Off the Shelf* "(C.O.T.S.) system components and applications, in cost effective "interoperable" configurations.

The initiative began by demonstrating an AIMS specific prototype of the system at various fire / arson related professional association conferences and technology trade shows to demonstrate various capacities and capabilities while actively soliciting potential user needs and suggestions. The initial demonstration units were provided by Actions Systems, a Division of V&A Incorporated and consisted of configured platforms similar to previously supplied hardware front-ends to the CHIMS for the Army, National Criminal Intelligence Service (NCIS), and Air Force Office of Special Investigations (AFOSI).

Also key to the effectiveness and adaptability of the system was the selection of the primary web-based application software. The software of necessity would have to be National Incident Based Reporting System (NIBRS) compliant and web-based to address the projects goals effectively.

After substantial review and consideration of various applications, the C.O.T.S. software application chosen was a product known as CHRISNet / NetRMS provided by MEGG Associates Incorporated. The software offered a NIBRS compliant data set and a variety of customization features that were envisioned to facilitate successful adoption and implementation by the pilot sites. The software allowed the State identified necessary Minimum Essential Requirements (MER) to be integrated into the application in a timely and cost effective manner, without material change to the basic application. These modifications became known as the Tennessee "patch".

Simply speaking, the 'patch' consisted of a user interface that included increasing the number of pull-down menus, additional data fields, and user specific graphics. The 'patch' provided a customized look and feel that was MER specific, as well as user-friendly. These adaptations were seen to substantially enhance the sense of user-ownership of the technology.

The next major project evolution was to select a demonstration site proving ground where the Pilot system could be implemented to establish a viable State-wide infrastructure and data repository, with the potential to support both State and local investigative agency participation.

The demonstration project initiative was designed to:

1. Provide an Investigative Unit staff, "force multiplier", by enhancing the quality and quantity of incident related information / intelligence gathering
2. Provide access to and collection of intelligence data and information during the active / ongoing investigation of an event,
3. Provide a shared State-wide repository for intelligence data (post-event), that could be pro-actively used to mitigating crime, and
4. Prevent arson-related crime from happening

The Tennessee State Fire Marshal's, Bomb and Arson Investigation Section was selected to be the Demonstration Pilot test site for the project. Tennessee was selected for the pilot program because:

- Tennessee is a large and geographically diverse operational environment.
- The communication systems within the state presented significant "interoperability" challenges
- Investigator computer literacy was typical of non-automated work environments.
- The state's computer center was available to host other technology systems
- A mobile SORT (Special Operations Response Team) vehicle was already in place, which could be used to demonstrate remote / mobile command and control functionality
- The State Fire Marshal agency could provide multi-organizational inputs from other offices and organizations
- The person who would be in charge of on-site operations had a background with both the Federal (Alcohol Tobacco and Firearms), and State law enforcement agencies
- The TVA Police project manager was locally available to provide technical assistance and support to the pilot sites within the state.

Although the Tennessee State Fire Marshal had only minimal fiscal assets to support the technology transfer, the leadership and staff committed to constantly leverage the available fiscal and human recourses to provide both direct and in-kind support to the effort.

The Tennessee Challenge

Understanding the challenges confronted by the Tennessee State Fire Marshal's Bomb and Arson Section is essential to fully appreciating the value of this demonstration project.

The Special Agents in the State Fire Marshal's Bomb and Arson Section are sworn Law Enforcement officials that faced many data management challenges common to others:

- They are geographically disbursed—21 Agents covering the entire state (with approximately 95 counties)
- Their incident report summaries were done in hard copy, by hand, using 3X5 cards, and specific paper forms
- Computerized reporting was non-existent, and therefore the level of on-the-job computer-literacy of the Agents was low
- They were NOT processing National Incident Based Reports (NIBRS) through the FBI's Uniform Crime Reporting index, as required
- Their statistical reports were compiled, and created by one person who reviewed the paper-based documentation (in it's varied forms).

The AIMS project management team continually sought to ensure the system was designed for real investigative field agents, specifically, that the user interface was designed to be investigator friendly.

An additional implementation concern focused on the amount and scope of the Investigator related *training burden* imposed by the demonstration project's various technology enhancements. The goal was to minimize investigator training related "down time". Accordingly, in addition to the various periodic formal training on various applications, the Investigators were provided access to a mirror image "training server" on which to practice data entry and program applications prior to entering real data on the operational server. As well, the more proficient / computer literate investigators served to mentor novice users in the use of both equipment and software applications, thus increasing their 'comfort level' in adapting to the new technologies.

Immediate Results

Basically, this State Agency went from a paper-based information collection methodology, to a highly integrated, web-based system in less than one year. This project has proven that practical and cost efficient means exist to cross-link information system to assess vulnerabilities, and examine patterns, and index planning information to help prevent crimes.

Generally, the bulk of information that comes into the hands of law enforcement enters at the street level. The project team of AIMS 2000 used this knowledge to develop an effective system that:

1. Provides a 'user friendly' technology environment for investigators in the field,
2. Requires minimal start-up time for the computer novice (field agents can become functional at a pace relative to their experience with the technology),
3. Permits real-time crime reporting from the field,
4. Enables Interoperability (the ability to transcend and interrogate crime-based intelligence databases at all levels across all jurisdictions),
5. Provides GIS Mapping capabilities (to map and display local 'hot spots'),
6. Operates connected to the State Agency's main intelligence / data system, or as standalone field units,
7. Possess the ability to produce consistent, cross-jurisdictional work products using standard terminology,
8. Provides a system platform (kit) proven reliable for 'hard' field use,
9. Provides a User-Interface (UI) that can be customized to suit the data collection needs the agency, and
10. Provides a system that could be value-priced based on agency needs (in order to work within the budgetary constraints).

How is the System Used Today?

Consider for a moment a real-world scenario where the Director of the Bomb and Arson Investigation Section of the Tennessee State Fire Marshal's office, arrives at his office early on a Monday morning, and receives a call from the Governor's office, or a major news media reporter regarding an arson that his office worked over the weekend, in another part of the State. Prior to the AIMS pilot, the Director would have to contact the field supervisor, who in turn would contact the agent, who would then document the details of the case. Today, a simple query of the system enabled this Director to have access of the entire case file immediately.

In another situation the same office received a call on the arson hotline from a citizen stating a fugitive they had been looking for was at a specific location. The Director checked the system with negative results—concluding that the call yielded a false lead *for his department*. However, the Director was able to forward the time sensitive information from the hotline contact to another agency that apprehended the suspect.
Again, prior to the system implementation, the Director would have had to ask each supervisor to check with each of his or her field agents for information about the individual, notwithstanding the time sensitive nature of the tip.

What's next?

The last major equipment enhancement planned for the Tennessee demonstration will be the addition of a video teleconferencing capacity. Initially the video teleconference feature will seek to link the investigation unit's main and regional offices with the SORT unit. When complete, the capacity will provide the ability to effectively visualize on-

scene activities, enhance supervision of field operations, and conduct staff briefings and incident critiques concurrently at various locations.

Additions will be made to the software suite as well, to enhance the link analysis and data mining capability to the existing core applications that support sophisticated data analysis and mapping. These applications will provide additional tools that improve the investigative work product and will be indexed by the primary application software (CRISNet).

How Can Other Agencies Take Advantage?

Although the AIMS 2000 initiative was primarily focused on creating state-based repositories for the collection and analysis of multi-jurisdictional investigative information and intelligence, the core capabilities are considered to have relatively broad application in any agency with significant information collection and management challenges.

The application of this computer-based system is limited only by the imagination of the agency. For example, local police officers, and county sheriffs (or any field agents for that matter), can deploy the system on a laptop, which can be mounted in their cruisers. These systems can then be used to capture investigative reports during the course of their regular shift. The completed report can be uploaded to the central database at the discretion of the reporting officer.

Fire Service personnel can deploy the system to establish a '*virtual office'* capability in the field for the direct operational support of on-site fire, arson and bomb investigations. Operating in this mode, a 'command center' can be established in a SORT style vehicle, utilizing a variety of communications connectivity, including satellite, cell and landline. This type of robust functionality enables 'direct from scene' data capture, (incident reports detailing the preliminary investigative findings) from even the most austere locations, may be uploaded directly to a centralized database, retrievable by other law enforcement personnel with ready access.

Carrying the 'virtual office' scenario an additional step, the SORT deployed system can be used to cross-reference data in real-time to determine if current witnesses, suspects, or victims are (or have been) associated with similar crimes. As well, the wealth of information assets available through the Internet, can be used to support the ongoing investigative effort, including; weather reports, product recall notices, codes & standards, technical guides & sources, etc. All of which, and more, are available to the investigator on-site utilizing this 'virtual office' technology.

The ultimate purpose for the application of such information sharing technology in the realm of arson and bomb investigation is, of course, to provide prosecutors the case facts and evidence necessary to effect a conviction. A District Attorney General, or U.S. Attorney's must have the ability to review criminal case reports that effectively

outline the chronology of events, contain reports of interviews, witness statements, crime diagrams, photographs, and other evidentiary documents in their efforts to prosecute a case. The Tennessee. AIMS Demonstration project has brought these capabilities to bear as reflected in the State Fire Marshal's arrest and conviction rates.

Conclusion

The lessons learned on this pilot project turned out to be very timely as the country focused on timely response to terrorist acts following the September 11, 2001 attacks on the World Trade Center and the Pentagon.

The Tennessee State Fire Marshal's Bomb and Arson Investigation Section was able to effectively adopt a proven "military technology transfer" model in a manner that not only addressed their internal informational / organizational needs but also serves as an emerging standard for the collection, analysis, and sharing of investigative data with other local government participants.

The success of this model, depended in large part on the studied selection / identification of the State's minimum essential requirements (MER) to tailor a cost effective user interface that was specific to Tennessee, yet NIBRS compliant.

To be deemed a value-based, cost effective solution statewide in Tennessee (or else where) the system replication cost was targeted not to exceed $500,000 and to be achieved using COTS (Commercial off the Shelf) based system components and applications. By reliance on these parameters, the AIMS 2000 system was deployed statewide for at least 25% of what it would have cost a project not using this "COTS + Patch" strategy. The project's 'MER type' methodology establishes a foundation that can be employed by other agencies to deploy similar systems. Now Federal, State, and Local Law Enforcement agencies have a proven model they can use to capture, and disseminate crime-based intelligence data and information that is truly "interoperable" and not cost prohibitive.

References

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2. "Lessons From Bosnia: The IFOR Experience," Chapter IX: Counterintelligence and HUMINT, David D. Perkins