Technology Acquisition Project
Case Study

Pierce County/Tacoma, Washington
Law Enforcement Support Agency (LESA)

This case study focuses on records management systems (RMS) technology acquisitions. It is one of 18 case studies prepared for the "Technology Acquisition Project" administered by the Institute for Law and Justice in partnership with Government Technology, Inc., and funded by the National Institute of Justice (NIJ), U. S. Department of Justice. The author of this case study is Steve Pendleton, President, Information Analytics, Inc. The report has been reviewed by the participating site but should be considered a draft pending final NIJ review.

Background on the Project

In April 1995, the Law Enforcement Support Agency (LESA), a jointly funded entity serving the Pierce County Sheriff's Department (PCSD) and the Tacoma Police Department (TPD), began a study to replace an existing case management system. This project was a workshop held on four days over a four-week period. During these workshop sessions, the project team examined the case management processes of PCSD and TPD with the view to design a new case management system. As a result, the team realized they needed to expand their study to ultimately define a new paradigm for activity and task management within the contributing agencies. LESA spent the next year organizing support for an inter-agency group to formulate a strategic plan for the new system. A "ground up" reengineering study group was formed with PCSD, TPD, and the Puyallup Police Department (PPD) assigning personnel full-time to the effort.

The new study, conducted between July 1996 and December 1997, yielded a strategic plan for the Law Enforcement Activity and Data System (LEADS) 2000 and a request for proposal (RFP) to begin the acquisition process. This RFP resulted in an award and contract with MEGG Associates, Inc., of Salt Lake City, Utah, to provide their NetRMS and CRISNet Cruiser applications as the core information management system built in the first phase of LEADS 2000.

The primary participants in the LEADS 2000 project—LESA, PCSD, TPD, and PPD—view themselves as a consortium that shares resources, both financial and personnel, to the benefit of the group. This unique concept, which spans political and law enforcement agency boundaries, has fostered a cooperative approach to technology acquisition not often found in city and county governments today.

Law Enforcement Support Agency (LESA)

LESA is a governmental entity formed by interlocal agreement provided for under Washington law and jointly funded by Pierce County and the City of Tacoma. Its purpose is to provide communication, information, and records management services to the PCSD and the TPD. LESA is designed to eliminate redundancy, improve access and

communication, and gain economies of scale. LESA also provides law enforcement support to several other cities and towns in the region. It is the lead agency in a consortium to provide electronic information systems for the purpose of reducing officer time currently spent performing routine, time consuming, administrative tasks, focusing on law enforcement tasks by changing the way business is conducted in the departments.[1]

Key personnel within LESA who continue to contribute to this project include Robert Van Gieson, LESA Director; Robert Kaelin, LESA Assistant Director; Lloyd Eggers, LEADS 2000 Project Manager; Arnold Blaker, LESA Assistant Director, Communications; Dorian Stockman, Project Assistant; Tina Huber, LESA Assistant Director, Records; and Steve Davis, Consultant, MTG Management Consultants.

Pierce County Sheriff's Department

Pierce County is southernmost of the four counties generally referred to as the central Puget Sound region, which includes King County, Snohomish, and Kitsap counties. It has a total landmass of 1,675 square miles and ranks 23rd in size among Washington's 39 counties. In terms of population, Pierce County ranks second in the state. Pierce County's population is 673,400, with 301,196 or 45 percent in unincorporated areas and 373,104 or 55 percent in incorporated areas.

The Pierce County Sheriff is appointed by the County Executive. The Sheriff's Department (PCSD) has a staff of 297 sworn officers, 259 corrections officers,109 civilian personnel, and approximately 90 volunteers. The Department operates out of 11 facilities located throughout the county and is organized into three bureaus, Operations, Corrections, and Administrative and Technical Services.[2]

Key personnel within PCSD who continue to contribute to this project include Sheriff Mark French; Captain Tom Miner, Training Services, Leads 2000 Agency Project Manager; and Kathy Bogue, Systems Analyst.

Tacoma Police Department

The city of Tacoma, situated in Pierce County on Puget Sound, has a total population of 186,500. Tacoma's projections for growth over the next five years range between 4.6 and 6.7 percent. Tacoma's vision is that it will be recognized as a livable and progressive international city, regarded for the richness of its multi-cultural population and its natural setting.

The Tacoma Police Department (TPD) is a full-service law enforcement agency with 370 sworn members and 43 civilian personnel.

Community oriented policing is a philosophy of the police and community working together, using problem solving strategies to address crime problems in neighborhoods. Community oriented policing in Tacoma emphasizes crime prevention and problem solving through partnerships with city neighborhoods. The TPD practices community policing through full participation and involvement of all police employees during their

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1 Law Enforcement Information Management System Specification Number G-061-97, p.17.
2 Ibid, p. 22.

interactions with citizens and in all matters concerning crime prevention and law enforcement strategies.

The TPD is configured into four geographical areas called sectors. Each sector contains four districts. Sector and district boundaries are based on calls for service, taking into account neighborhood integrity. [3]

Key personnel within TPD who continue to contribute to this project include Chief of Police James Hairston; Sergeant Dennis Kieffer, Patrol Operations; Captain Ray Roberts, Patrol; and Jeff Huntsman, Systems Analyst.

Puyallup Police Department

Located east of Tacoma along the Puyallup River, the city encompasses approximately 12 square miles and has a population of 30,000. The Puyallup Police Department (PPD) has 50 commissioned and 18 civilian personnel. This includes police officers, corrections staff, and clerical and technical staff.

Areas of the city are divided into community policing neighborhood "beats," and officers are permanently assigned to these beats. The PPD is committed to providing 1.6 commissioned police officers per 1,000 population and to giving all citizens equal police exposure and services. Police officers maintain a 3.5-minute emergency response time and a 5-minute non-priority response time. All calls for service requesting an officer receive an officer based on priority.[4]

Key personnel within PPD who continue to contribute to this project include Loc Reader, Chief of Police; and Cheryl Scott, Administrative Assistant to the Chief of Police and LEADS 2000 Agency Project Manager.

Summary of the Technology Solution

The LEADS 2000 project provides a technological replacement and upgrade strategy for a variety of disparate systems located within Pierce County. These range from mainframe programs to applications running on standalone personal computers. The project includes both hardware and software acquisitions. The strategic plan encompasses four phases of implementation beginning with acquisition of the core IMS, pilot of the new IMS, and limited implementation of the IMS within TPD and PCSD.

Where the previous system contained a number of separate applications accessed through "dumb" terminal connection to VAX servers, LEADS 2000 operates on Intel-based workstations and laptops using a Windows operating system. The workstations connect to local area networks (LANs) within each agency and then out to a wide-area network (WAN) having up to 100MB throughput capacity.

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[3] Ibid., p. 23.
[4] Ibid., p. 24.

Legacy Environment[5]

The LESA legacy applications operate on a 2-node VAX cluster and several Micro-VAXes. The VAX systems run the VAX/VMS operating system, which uses several programming languages, including a fourth generation language and database management system called Userbase.

The LEADS 2000 project will migrate from the VAX system to new Intel multi-processor servers and the Windows NT operating system.

LEADS 2000 also integrates or replaces the following legacy information systems LESA has developed or currently maintains.

System	Definition
AP/S	Pawnbroker and Tracking System
CAD Closed	Extract database from CAD for use by other LESA systems
Caselog	Case tracking system being replaced by LECATS
CHRI	Criminal History Records Information System
CIIS	Criminal Information Inquiry System
CIMS	Criminal Investigation Management System
CLEAR	Consolidated Law Enforcement Automated Reporting System
CMS	Case Management System (being replaced by LECATS)
GANG	Gang Tracking System
LECATS	Law Enforcement Case Assignment and Tracking System
MSU	Marine Services Unit personnel tracking
Phone Number System	Telephone Number Database System
PROACT/MO	Organizes criminal activity by MO or incident characteristics
RMS	Puyallup Police Department Records Management System
SORS	Sex Offender Registration System
State Interface	LESA Interface with WSP ACCESS System
TPDGANG	Gang Tracking System
Vehicle Hot Sheet	Stolen Vehicle Hot Sheet
Warrants	Warrant Tracking System
WARRANT	Automated Warrant System

[6]

Acquisition Project

Interviews conducted with project personnel indicated the reasons for acquiring the new technology centered on the need to move from the legacy systems to new hardware platforms and software applications. Part of this was due to a Year 2000 concern within

[5] Ibid., p. 17.
[6] Law Enforcement Activity and Data System 2000, Exhibit II.

the legacy system. Another reason given was to create a system wherein the computer does what the user needs it to do. The reason stated in the RFP was "to provide an integrated law enforcement information system that meets the business requirements of the member organizations through the implementation of new technologies." [7]

The primary vendor in LEADS 2000 is MEGG Associates, Inc. MEGG is providing their NetRMS product as the core information management system for Leads 2000 Phase 1. This application came on-line, in a pilot format, in January 1999. MEGG is currently customizing their CRISNet Cruiser application for deployment as the LEADS 2000 field reporting application. MEGG's price for the Phase 1 applications is $630,000.

CRISNet Cruiser is a desktop or notebook client application for case report data collection. The client software connects to CRISNet Server modules by way of local area network (LAN), wide area network (WAN), wireless, or dial-up connections.[8]

NetRMS is a server-based intranet and Internet-enabled application that runs on Microsoft BackOffice. Clients connect to NetRMS with Microsoft Internet Explorer using LAN, WAN, wireless, or dial-up connections.[9]

The new system provides many advantages over the legacy environment. It provides LESA the ability to integrate the many separate applications currently in use within PCSD, TPD and PPD. The NetRMS product provides a web-based client that facilitates a centralized deployment and upgrading of all clients accessing LEADS 2000.

NetRMS is accessed via the Microsoft Internet Explorer browser. Because NetRMS is a true intranet application, no other program code needs to reside on the desktop or laptop computer to be able to access the resources in the system. Only a network connection is required.[10] NetRMS also provides LESA developers with the MEGG Active Paper application resident on each client. Active Paper is a copyrighted and patent pending technology written by MEGG Associates for use with their products to allow them to efficiently wrap web pages and documents into the format they want for MEGG applications. This application incorporates Microsoft's Active Server Pages, an application environment that lets CRISNet and LESA staff developers combine hypertext markup language (HTML) with inline scripting. The scripts reference components running on the local server, or any other server, to access CRISNet databases, documents, applications, or process information.[11] This allows LESA to customize NetRMS to their needs. Bob Kaelin refers to Active Paper as "literally the client/server glue" within the NetRMS environment. Mark Stiegemeier, CEO, MEGG Associates, says the NetRMS product was designed to allow the customer to extend the environment but do it in such a way that it preserves the maintainability of the vendor application.

LESA began planning for system replacements in 1990. The initial activity centered on replacing the legacy Computer Aided Dispatch (CAD) system. This was a separate acquisition process that started with an RFP release in 1993 and contract award in 1994.

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7 Law Enforcement Information Management System Specification Number G-061-97, p. 5.
8 http://www.crisnet.com/products
9 Ibid.
10 http://www.microsoft.com/industry/government/developers/whitepapers/crisnet2.stm#ASP
11 Ibid.

The LEADS 2000 acquisition project began with a case management study in 1994. The case management planning workshops took place in March and April, 1995.

In August 1995, LESA submitted their application for a COPS MORE 95 grant. In July 1996, LESA formed a workflow reengineering group in an effort to get started on the LEADS 2000 planning. The strategic plan issued by the reengineering group led to the release of the LEADS 2000 RFP in November 1997. MEGG Associates was awarded the LEADS 2000 bid in April 1998. A contract was signed with MEGG Associates in June 1998. The beta release of NetRMS was installed in Tacoma in July 1998. The first implementation phase began in August 1998 and NetRMS began use in production in January 1999.

Nature of the Problem

In its role as the provider of communication, records management, and information services to the PCSD and TPD, LESA began reviewing their technology needs as early as 1987. At that time, LESA hired R.W. Beck Consulting to perform an analysis of LESA's ability to support technology.

Out of these early studies grew an understanding of the need to address changes required by rapid advances in computer hardware and software technologies that resulted in the degradation of legacy systems. LESA realized they were facing a Year 2000 problem in the early 1990's and began moves to address the problem. A basic concern of the legacy applications was the lack of integration and the existence of information islands that inhibited users' ability to obtain data in an efficient manner.

The LEADS 2000 strategic plan, published in September 1997, best describes the legacy system problems as follows:

> Many of the critical information systems were developed in the 1980s and are not year 2000-compliant. These systems were designed to address specific functional needs and lack many of the benefits of more integrated systems, and therefore modifying them to meet changing business needs is increasingly difficult. Additionally the legacy systems do not meet new state and federal standards developed for NCIC 2000.
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> - The current business processes and practices are not satisfying the need for timely and convenient access to accurate and current information. Current information processes are characterized by the following:
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> - The initial capture of almost all information is paper-based, making sharing and location of information time-consuming and difficult.
>
> - Reports are often manually transported between locations using valuable law enforcement officer (LEO) and other law enforcement staff time on low-value activities.

- Entry of information from paper forms into automated systems usually takes place well after the incident itself, impacting the ability to broadly share and access information in a timely fashion.

- Some information is never entered into any automated system, forcing the continued reliance on access to paper files for a comprehensive view.

- External systems are often queried for information, and that information is reentered into local systems.

- The same information is often entered into multiple automated systems, creating additional workload and causing different systems to provide different results.

- There is no way to determine what the full contents of an existing single case file should be (e.g. how many supplemental reports should there be and from whom). Therefore, incomplete information may be provided and result in inaccurate conclusions and rework.

- Case files are entirely paper-based, relying on manual access and photocopying to create sharable information. Providing needed copies takes staff time, causes delays in delivering needed information, and increases risk of interested parties having multiple versions of the case file.

Investigative work relies heavily on law enforcement staff knowing what paper and automated systems to access and how to access them. This requires significant time simply accessing the data, thereby leaving less time to focus on analyzing and drawing conclusions based on the data.[12]

The LESA staff is comprised of forward-thinking individuals who understood that in order to fulfill their vision, they would have to completely reengineer the legacy information systems. Bob Kaelin, Assistant Director of LESA, said that LEADS 2000 started has an idea formulated by line level personnel to replace an outdated case management system. Kaelin's analogy for the beginning is that a "healthy seed planted in the right place always grows." In this fashion, LEADS 2000 germinated from the ground up rather than being formulated at the executive level.

This germ of a concept led to an initial four-day business process reengineering exercise. The first day was spent discussing the business process. The next two days were spent modeling the existing case management system. The final day was spent discussing vision and redesign issues. At the end of this exercise, it was apparent to the group that what they wanted to accomplish was far beyond the scope of a new case management system. Instead, they found that what was needed was an entirely new information and activity management system.

With this concept in hand, the group approached command staff in the participating agencies with a request to form a reengineering study group, which would be responsible

[12] Law Enforcement Activity and Data System 2000, pp 5-6.

for producing a strategic plan for (1) acquiring technology to support the concept, and (2) implementing the systems following acquisition.

Assessment and Decision Making Phase

LESA Reengineering Study

The LESA assessment and decision phase is unique in that it began with an exhaustive 18-month reengineering study that resulted in a comprehensive strategic plan. Part of the impetus for conducting the study was LESA's successful application for a COPS MORE 95 grant.

Arnold Blaker, currently the LESA Assistant Director for Communications, described COPS MORE 95 as providing the ability for law enforcement agencies to make the leap from legacy data systems to new technology in the same fashion that the 1970s LEAA funding allowed the first moves from paper-based systems to automation.

Within the law enforcement community, inter-agency task forces are inherently fraught with battles for resource allocations and resistance to the recalling of those resources for internal use. One of LESA's successes was obtaining a team of people released from their day-to-day duties to focus their attention, full-time, on the reengineering study. They accomplished this by doing a good job of selling the process and potential benefits to agency executives. The selling process even included producing a videotape presentation on LEADS 2000 benefits. This selling effort was required since the concept was born at the line level and at first the executives did not see the value.

The LEADS 2000 strategic plan viewed executive ownership in the project as a critical success factor.

> Effective business process change, whether or not enabled through technology, requires the unqualified commitment of the organizations whose processes are being examined. This commitment must begin with senior executive staff. It must be clear that the projects identified in the LEADS 2000 plan are an organizational priority. This must be a 'knowledgeable commitment' that exhibits a shared understanding that change is necessary, a shared vision regarding what is desired through the change, and a shared commitment of resources and leadership to define and implement the changes. Senior executives within each organization must act as sponsors for plan implementation and must believe in the importance, priority, and benefits of the changes identified.[13]

From the inception of the reengineering study, the LESA struggled to retain the allocated resources. The whole reengineering concept was hard for agency executives to see as their project, rather than as a LESA project that was tying up their resources. The fact that the study team remained on task for 18 months is a tribute to the team members' dedication to the LEADS 2000 concept. Now, agency executives agree that the reengineering study was the most valuable aspect of the entire acquisition process.

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[13] Ibid., p.12.

Arnold Blaker and Bob Kaelin led the reengineering study. A representative from the LESA Records Management division, a TPD Sergeant, a PCSD Detective, and a PPD Records Management representative formed the study team. LESA wanted a Puyallup representative involved in order to investigate the concept of making LEADS 2000 a regional service.

The team took a non-traditional approach to task modeling and reengineering in that they looked at the participating agencies as businesses rather than public safety departments. In this approach, they considered three major forces that drive modern law enforcement agencies into unfamiliar territory.

1. Customers. LESA viewed each of the participating agencies as customers. In turn, each agency viewed the general public as customers. Customers demand service, and the strategic plan had to explore how to provide efficient and timely service.

2. Competition. The team recognized there would be ongoing internal and external competition for scarce resources.

3. Change. Viable businesses recognize that change is inevitable and that planning for change in an orderly fashion is essential to success.[14]

Viewing the reengineering through the eyes of a business was also seen as a critical success factor in the final strategic plan.

> To be successfully implemented, each project in the plan must maintain a clear focus on satisfying the business needs of participants. Automated and manual systems simply enable changes in process and workflow to better serve the business. If these enabling systems become the sole focal point of LEADS 2000 plan projects, the project and participating organizations may lose sight of the business needs and anticipated benefits. Too much emphasis on the technology solutions for this project (e.g. laptop computers, imaging) could cause the focus on business requirements to be diluted in the rush to introduce new technology.[15]

The reengineering team reviewed 140 different workflow processes beginning with the receipt of a call for service at the communication center, through the patrol officer response and report taking, to any subsequent investigation, and finally through the court system. The team took an enterprise view to workflow and data modeling, but looked at implementation at the individual agency level. The team interviewed all components of their individual agency's operations. The first 12 months were spent examining all aspects of each department's workflow and the paper it generated.

Initially, the team did not seek any external assistance with the study. The team leaders did not choose to seek outside help until the team began struggling to stay on task. In October 1996, LESA released an RFP for consulting assistance. MTG Management

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[14] LESA Case Management Presentation, 3/22/95 through 4/12/95.

[15] Law Enforcement Activity and Data System 2000, p. 13.

Consultants, Seattle, Washington, were chosen in January 1997. Steve Davis was the MTG representative who worked with LESA.

MTG adopted the consortium approach to the process to bring all parties back into focus. MTG took on the role of opening and maintaining lines of communications between the team and executive decision makers. Bob Kaelin viewed the selection of MTG as a turning point in the assessment process. Once MTG became involved, the team began moving forward until it ultimately produced the final strategic plan in September 1997. MTG continues to have an ongoing role in the project through conducting independent risk assessments on a quarterly basis.

Final Strategic Plan

The final strategic plan is a comprehensive roadmap of LEADS 2000. The plan is comprised of the following major components:

1. Introduction. This section describes the purpose of the plan, the plan's background, objective and content, and planning approach.

2. Situation and Scope. "This section defines the current situation for the law enforcement and law enforcement support agencies in terms of problems and opportunities faced. Additionally, this section defines how the various organizations and information systems are considered within the scope of the planning effort." [16]

3. Business Framework. "This section describes the overall business environment desired for the future, the strategic goals that will help achieve this environment, and the actions the organization must take to realize the goals. These statements about the future provide a strategic business framework within which specific change initiatives and plans of action will be developed." [17]

4. Future Vision. "This section of the plan defines a business and technology vision for the future. The vision defines how work will be done and technology underlying or supporting business processes. This vision is the work of project team members from the PCSD, TPD, Puyallup Police Department, LESA Records, and LESA Information Technology." [18]

5. Strategic Initiatives. "This section describes focus areas, or initiatives, along with typical activities the law enforcement community must undertake to move participating organizations toward the goals and vision for the future." [19]

6. Migration Strategy. "This section of the plan presents the business decisions and parameters used to develop the migration strategy; and the migration strategy,

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[16] Ibid., p. 5.
[17] Ibid., p. 9.
[18] Ibid., p. 15.
[19] Ibid., p. 38.

which packages activities within the various initiatives into a series of implementation stages." [20]

7. Tactical Plan. "This section defines the tactical plan of: the major activities required for each stage and an estimate of the amount of time required for each activity or task; the projected number of human resources from agency operations and management personnel to complete the activities and provide timely decision making and over sight; and the estimated schedule and costs for each stage of implementation." [21]

The Tactical Plan broke the LEADS 2000 Project into 4 stages of implementation. In the RFP, these stages are defined as follows.

Stage I includes:

> Acquisition of the core IMS, pilot of the new IMS, and limited implementation of the IMS within TPD and PCSD. The pilot will be conducted in a highly contained environment and be based on the basic IMS with very few enhancements. The limited implementation will follow the pilot and include up to 50 additional users. Specific locations to be part of the pilot and limited implementation are not yet established. Features of the IMS limited implementation in Stage I include:
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> - Stage I replaces the functionality of the current CLEAR, CHRI, LECATS, and Puyallup systems for pilot and limited implementation users
> - The current CLEAR, CHRI, and LECATS systems will continue in operation
> - Common data between the legacy RMS (CLEAR, CHRI, LECATS) and the new IMS will be stored in the legacy database
> - Automated report-writing capabilities will be piloted; however, the number of report types will depend upon a forms redesign effort occurring prior to and concurrent with stage I. Deployment to patrol vehicles will depend on the availability of funds to acquire and deploy portable units
> - Limited activity and "to do" lists will be available. This implementation will probably include standard "to do" lists based on incident type
> - The IMS and officer laptop devices will be able to receive data from CAD

[20] Ibid., p. 56.
[21] Ibid., p. 64.

- The LESA organization structure, as well as LESA Records and LESA IT job descriptions, will be reviewed and adjusted as appropriate based on the new work flows and technical environment.[22]

Stage II includes:

- The CHRI, CLEAR, and LECATS and WARRANT legacy systems continue in operation for those locations that do not have the new IMS technology. The Puyallup RMS is retired
- The IMS will continue to be deployed in the participating agencies
- IMS and common legacy data will be stored in the new database
- The new IMS will replace the functionality of the WARRANT and PCSD Warrants systems. The PCSD Warrants system will be retired.
- New functionality will be provided to support a local protection order file
- Pushing information to users, providing automatic alerts, and generating activity and to do lists will be substantially completed (approximately 80 percent)
- A public service delivery strategy will be developed, and the public will be able to access limited law enforcement services over the Internet
- The IMS will be capable of automatic case assignment
- The automatic capture and reporting of business activity information will be available, along with an initial implementation of resource allocation information
- Document scanning and digital document storage and retrieval will be acquired and piloted in selected locations. This includes the pilot of the electronic (virtual) folder
- Automated report capture and creation will be completed
- The LESA, TPD, and PCSD organization structures and job descriptions will be reviewed and adjusted as appropriate based on the new work flows and technical environment.[23]

Stage III includes:

- The AP/S, CIIS, CIMS, GANG, MSU, Phone Number, PROACT/MO, SORS, and TPD GANG systems will be functionally replaced and retired
- The CLEAR, CHRI, LECATS, and WARRANT systems will be retired

[22] Law Enforcement Information Management System Specification Number G-061-97, p. 6.
[23] Ibid., p. 7.

- The State Interface system will be replaced and retired
- Document scanning, storage, and retrieval will be fully implemented
- The electronic (virtual) folder will be fully implemented
- Activity and "to do" lists will be completed
- Public access through the Internet will be fully functional
- The resource allocation and management capabilities will be completed
- The DEC VAX environment will be retired, including all applications and OA tools
- The LESA, TPD, and PCSD organization structures and job descriptions will be reviewed and adjusted as appropriate based on the new work flows and technical environment.[24]

Stage IV includes:

- All desktop and MCDs will be in place
- Printers will be available in field operations
- Advanced peripheral technologies will be available for the laptop and desktop computing environment (e.g., electronic signature pads, portable citation devices)
- Live-Scan will be implemented on the desktop and at the patrol vehicle level
- The last imaging technology components will be deployed
- The LEADS 2000 plan will undergo significant revision and be replaced by a new planning document.[25]

The LEADS 2000 plan is worthy of being a model for agencies considering the acquisition of new technology. The team that produced the plan made painstaking efforts to enfranchise all levels of each organization in the planning process in order to foster ownership of the project. This also led to a plan uniquely designed to meet the needs of end users throughout the system.

Budget and Funding

The LEADS 2000 plan broke the project cost and implementation into four stages. The plan provided estimated costs for each stage. The LEADS 2000 plan estimated the total project cost would be $14,570,828.

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[24] Ibid., p. 7.
[25] Ibid., p. 8.

Since the inception of the LEADS 2000 procurement process, LESA has been awarded two COPS MORE grants. In 1995, they received $1.375 million in grant funds. In 1998, they received 2.3 million in grant funds. In the case of the Puyallup Police Department, a 1.5 percent law enforcement tax was included in the city's sales tax. This money has been earmarked for technology acquisition. The Pierce County Sheriff's Department and the Tacoma Police Department incorporate LEADS 2000 funding requests in their annual department operating budgets.

The LEADS 2000 project team is investigating additional private funding sources as an ongoing task through the project. To date, private funding sources have not been acquired. The consensus of those interviewed for this report was that continued funding posed the greatest threat to successful project completion.

The COPS MORE grants were written specifically to fund the LEADS 2000 project. The 1995 grant has paid for the majority of the Stage I implementation. It is anticipated that the 1998 grant will pay for 75 percent of Stage II and 50 percent of StageIII.

Bob Kaelin stated that another benefit of the strategic plan is that it has yielded cost savings over the original estimates. He estimates that the Stage I cost of approximately $1.5 million provided a system that would have cost over $3 million without the structure provided by the plan.

In 1998, the Pierce County Sheriff's Department allocated $400,000 in federal block grant funds to the purchase of laptop computers for PCSD personnel. This eliminated this cost from the LEADS 2000 project. There is currently $500,000 of unbudgeted funds coming from Tacoma and Pierce County for the purchase of server hardware.

It is estimated that over these grants and expenditures each of the four participating agencies have spent $300,000 to date on the LEADS 2000 project.

Procurement Phase

RFP Development and Response

On October 31, 1997, LESA published an RFP for a Law Enforcement Information Management System. The RFP was developed directly from the strategic plan that had been published in September 1997. Members of the reengineering group and MTG Management Consulting produced the RFP. The RFP was released on November 26, 1997, for competitive bid.

Since the RFP was written directly from the specifications of the LEADS 2000 strategic plan, it accurately reflected the requirements of the reengineering planning. LESA made the strategic plan available to vendors who were preparing proposals. They encouraged vendors to use the plan as a guide to understanding the LEADS 2000 vision and then responding to the RFP with how their products supported that vision.

Prior to the RFP release, LESA sent out a Request for Information (RFI) document to 200 vendors who were listed as offering public safety technology. This mailing resulted in 30 RFI responses. The RFP was mailed to these 30 responding vendors. Five vendors

submitted proposals: Motorola, Electrocom, GTE/Vision, Printrak International, and MEGG Associates.

The following timetable was listed in the RFP for the procurement process:

RFP Issue Date	November 26, 1997
Pre-Proposal Conference Question Deadline	December 12, 1997
Pre-Proposal Conference Date	December 17, 1997
Proposal Due Date	January 27, 1998
Public Proposal Opening Date	January 27, 1998
Notification of Finalists	February 18, 1998
Schedule Site Visits for Finalists	February 23-27, 1998
Confidential Presentations by Finalists	March 3-4, 1998
Finalists Evaluation	March 5, 1998
Site Evaluations	March 9-13, 1998
Evaluation Completion Date	March 16, 1998
Recommendation to Executive Board Date	March 19, 1998
Issue Intent to Award Date	March 20, 1998
Contract Signed Date	April 15, 1998[26]

There were no reported problems associated with the RFP process. Bob Kaelin attributed the lack of problems or protests to the fact that the evaluation process was well defined in the RFP. This made the process very clear to the responding vendors and did not leave loopholes where a protest could be made.

The Printrak International account manager at the time, John Hodel, was interviewed for his perspective of the RFP process. He stated that the RFP was one of the most complete documents he had ever responded to. He said that LESA presented a clear understanding of what they wanted in the LEADS 2000 system. This presented difficulties for the response; the depth of requirements and the number of required interfaces to external systems made the proposal response very challenging. He felt the process, while difficult, was fair.

Mark Stiegemeier, CEO, MEGG Associates, stated that MEGG had made a point to have exposure to LESA staff prior to release of the RFP. Stiegemeier, at the request of LESA staff, conducted three separate technology briefings in Tacoma. Since the MEGG Associates product plan incorporated web technologies in their NetRMS products, the LESA staff requested the briefings to assist in educating decision makers. LESA used these briefings to build end-user consensus for moving to web-based technology regardless of which vendor won the contract.

Mark Stiegemeier observed that the RFP contained detailed requirements, but also presented the LESA vision in such a way that vendors could show how they would meet that vision. The RFP left room for a vendor to use their experience to provide the best opportunity for an end solution. The RFP clearly stated the LESA did not expect to get all of their vision in one package.

[26] Ibid., p. 13.

Evaluation Process

Once the RFP process ended with the receipt of vendor proposals on January 27, 1998, the evaluation process began.

LESA formed three evaluation teams to review submitted proposals. These teams were organized as follows:

- Project Management Team—consisted of the project managers and other management personnel from LESA, PCSD, and TPD. The project management team also determined acceptability and administrative issues.

- Operational Review Team—consisted of operations staff from various divisions within LESA, PCSD, and TPD.

- Technical Review Team—consisted of Information Services/Technology Staff from LESA, PCSD, TPD, Pierce County, and City of Tacoma.[27]

The RFP described the evaluation process as follows:

> The Proposals will be initially reviewed by the Project Management Team to insure that they are compliant as to format defined in section D. Proposal Format in this RFP. Proposals will also be compared with the Letters of Intent from the Vendors.
>
> Proposals will be evaluated on the administrative, operational and technical sections first, and then, if they qualify, the costs. Proposals that fail to sufficiently comply with the technical, operational, and/or administrative requirements in this RFP shall not be considered for the final evaluation.
>
> In addition to the criteria listed below in Phases I - III, the Evaluation Teams will be looking for the responses which most reflect the following:
>
> - adherence of the Proposal to the format specified herein; all required information shall be provided as indicated
>
> - demonstrates a clear understanding of the goals and objectives of the project
>
> - completeness of the Proposal
>
> - quality and depth of references
>
> - demonstrated ability, within the past two years, to have successfully completed the installation and acceptance of at least two Information Management systems directly comparable to that being requested by the LESA organization. Vendors not able to provide demonstrated ability should adjust other risk factors with their proposal

[27] Ibid., p. 27.

- level of service and responsiveness that the Vendor commits to provide to LESA

- financial stability and resources of the Vendor

- experience and technical expertise of the staff assigned to implement the LESA installation and acceptance process

- proposed system that meets or exceeds the functional requirements

- ability to demonstrate the majority of its application in a live working environment similar to the LESA operation. Vendors not able to provide demonstrated working environment should adjust other risk factors with their proposal

- ability to demonstrate a commitment to the Marketplace and future technology being developed and

- ability to work within the limited time frames provided for the completion of this project.

Points will be scored during each of the Evaluation phases. Scoring during each phase is independent of the preceding phase. Upon completion of each phase, the vendors will start on a level playing field without any basis from the previous phase's scores." [28]

All five vendors who submitted proposals were invited to make confidential presentations to the evaluation groups in Tacoma.

Following the confidential presentations, a site visitation team (12 members of the evaluation teams) spent five days traveling across the United States to visit vendor sites and vendor headquarters. The site team went to Indianapolis, Indiana; Ft. Lauderdale, Florida; Boulder, Colorado; and Salt Lake City, Utah. Most of the travel team members don't recommend trying to compress this type of schedule into five days. Their stories range from airplanes being struck by lightening to flight delays and little sleep.

During the procurement process, all evaluation groups read the submitted proposals and scored them against the RFP requirements. This led to an initial vendor ranking. All evaluation groups attended the confidential presentations and again ranked the vendors. The site visits' purpose was to confirm or deny what was seen and heard during the confidential presentations. The site visit team presented a report to the entire evaluation group. They concurred on the vendor selection and a presentation was made to the LESA Executive Board. The Executive Board accepted the evaluation group's recommendation and awarded the bid to MEGG Associates.

[28] Ibid., p. 27.

Rationale for Award

The group chose MEGG Associates because of the company's dedication to Microsoft tool sets, web-based applications, and ease of modification for LESA future development. MEGG also made a convincing presentation on their interest in forming a partnership with LESA to make LEADS 2000 a reality.

The LEADS 2000 Information Management System is a core application made up of the MEGG Associates NetRMS and CRIS Cruiser applications. These applications are being customized by MEGG Associates to meet LESA requirements. In addition, LESA has an internal programming staff that will further customize and maintain the system. One of the primary reasons for choosing MEGG Associates was the application's use of Microsoft's Internet Explorer as an integral client feature. This will allow LESA programmers to develop internal applications and "plug" them into the NetRMS structure. MEGG, in turn, provides LESA developers with access to NetRMS source code so they can determine how modifications made at the local level affect the database and application structure.

One of the decisions made during the LEADS 2000 planning process was to build the new system entirely upon Microsoft operating systems, database engines, and development tools; and Intel based servers and workstations. MEGG Associates' use of Microsoft Backoffice and Microsoft SQLServer in their products was another reason for selection. This decision also allowed LESA to make COTS purchases of hardware and software which, in turn, reduced system costs.

LESA made the Microsoft decision to avoid the use of any proprietary hardware or software products. Experience with their legacy environment and the LEADS 2000 vision of an integrated system using web technology underlined the need for LEADS 2000 to be an "open" system.

Contract Negotiations

MEGG Associates was awarded the bid in April 1998. Bob Kaelin said the contracting process went smoothly and a contract was signed in June 1998. The contract included payment milestones based upon performance rather than delivery. The contract also included liquidated damages linked to the milestones.

Mark Stiegemeier said that from MEGG's point of view, the contracting process was smooth because LESA drove the process with a contracting schedule. He said the contract language was very clear. MEGG participated actively in the contract process. They created over 120 scope of work items that became part of the contract. Stiegemeier said that MEGG wrote to every deliverable in the RFP and, if it was work they were agreeing to perform, created a single page scope definition. Each side then reviewed these definitions and agreed to them. This process produced scope definitions at a fine level of granularity that allowed all parties to understand each side's role and responsibilities. This process has yielded benefits during implementation, since it has made the change order process very efficient.

Working Relationship with Vendor

To date, Kaelin views MEGG as a good partner who has been responsive to LESA needs and concerns. Kaelin has established good communications with the vendor through Mark Richens, the MEGG project manager. MEGG has dedicated internal resources to the LESA project in order to maintain the project schedule. Kaelin describes MEGG as being behind schedule on product deliveries, but not to the extent it is causing LESA concern. LESA has hired Lloyd Eggers as the LESA project manager. Eggers directs the internal project team and is the primary liaison with MEGG.

Pierce Power, of MEGG Associates, said that the company views themselves totally in a partnership relationship with LESA. He said a secondary factor that differentiates the LESA approach is their willingness to enter a long-term relationship with a vendor. Historically, public safety, for political reasons, has been hesitant to enter into a long-term arrangement with any one vendor. There is real benefit and value added to product and services where a long-term approach is taken. Since MEGG is committed to keeping pace with Microsoft technology, the long-term relationship will help LESA benefit from advancements in that technology.

Mark Stiegemeier confirms MEGG dedication to the LESA project. He has allocated significant internal resources to insure success. He sees MEGG's role in subsequent phases as providing a workflow architecture that will support the LEADS 2000 vision. MEGG will develop and integrate the complex business rules that the vision requires.

Implementation Phase

All of the LESA and agency personnel interviewed said that implementing and maintaining good lines of communication at all agency levels was critical. Many of those interviewed said that the LESA pre-procurement selling effort was so effective that it created problems during the implementation phase in that it caused agency personnel from the executive level to the line level to expect a rapid deployment and immediate access to the new technology.

Project Management

When the implementation began, LESA formed an internal project management team with project managers assigned from each participating agency. This team meets weekly to monitor project progress, address issues, and plan for future implementation. The team uses the Microsoft Project application to create master project plans and manage the project. These project plans were first created during the LEADS 2000 strategic planning and have been modified as needed for project management.

The LEADS 2000 system is housed within LESA offices in the Pierce County City/County Building in Tacoma. As the implementation moves forward, space is allocated as needed for expansion.

LEADS 2000 operates in a multi-processor, Intel-based Microsoft NT server environment. The new system is a standalone system that does not use any of the legacy hardware or software components. Bob Kaelin stated that a critical component to implementing a major system was to have completely separate development and production servers.

Since LESA intends to build their own internal applications, this was a requirement for development and testing before releasing an application into the production environment.

One of the few complaints heard about the new system was that the MEGG documentation was poor. This was attributed to the fact that the NetRMS is so new, documentation production was lagging behind development.

Training

Within LESA, training has been conducted in Visual Basic and MEGG Active Paper for LESA developers who will be working with the system. LESA developers will handle all legacy data conversion. Bob Kaelin stated that choosing industry standard tool sets has resulted in lower training costs for LESA staff.

MEGG training is conducted in a train-the-trainer format. There are trainers selected from each agency's personnel who attend the MEGG training. This generally consists of 24-32 hours of hands-on application training. These trainers then train the end users within their departments.

The move from a VAX based "dumb" terminal system to an Intel/Windows based PC system led to a training issue. LESA had to provide eight hours of basic Windows training for many end-users. The agencies involved made the Windows orientation course a class within their regularly scheduled training programs for existing employees and included it as a requirement for new hires. This avoided the need to disrupt schedules with special training classes.

Project Support and Schedule

LESA is first line support for LEADS 2000 end users by manning a 7x24 Help Desk. MEGG provides 7x24 support at the system administration level. This support focuses on single points of contact between MEGG and LESA.

LEADS 2000 implementation is still underway. Stage I is being completed and Stage II is being started; the overlapping stages are part of the implementation plan. The project schedules for system implementation now extend into 2001.

Impact Phase

Robert Van Gieson, Director of LESA, and Tom Miner, PCSD Captain and LEADS 2000 agency project manager, both stated that one of the initial adverse impacts was the transition from the legacy system to NetRMS. The effort required to get data into the new system was greater than anticipated. Initially, police incident reports were being double entered into the legacy system and into NetRMS. This was necessary because the majority of end users still only had to access the legacy systems for their case information, but data had to be entered into NetRMS to begin testing and make the transition to the new system.

A hardware problem caused an existing production server to crash within a month of NetRMS coming online. NetRMS was initially installed on existing server hardware that

was about a year old. This server was equipped with an "off-name" brand disk that failed. This failure resulted in the loss of four out of seven disks in a RAID 5 configuration. As fate would have it, this loss occurred at the same time as LESA was implementing a backup solution, but it was not formally up and running. Bob Kaelin said that, in hindsight, everything that could go wrong did in this specific instance. One of the factors that ameliorated the situation was the skill of the internal LESA support team. After an attempt to perform an orderly recovery failed, the decision was made to reenter the lost data rather than continuing to attempt data recovery. Bob Kaelin said they determined the cost benefit to reenter was greater than to rebuild.

This loss of data set back the implementation effort. It caused a data entry backlog that LESA is still attempting to reduce and frustration at the end user level in getting data needed to do their jobs. However, the project team is undaunted in its efforts to push forward with the implementation.

The team recognized and identified during the strategic planning phase that communication, change management, and risk management were critical factors for success, but they did not realize the effort it would take to incorporate these concepts into the implementation.

As one team member put it, "Everyone assumed that the product purchased would automatically work." This assumption led to dissatisfaction with the implementation pace and caused LESA staff to implement additional communication tools to keep all levels of all organizations apprised of developments and/or setbacks. These tools included a LEADS 2000 newsletter and increased communication between the agency project managers and their internal staff. MTG Management Associates conducts ongoing risk analysis and provides a quarterly risk assessment report to the LESA Executive Board.

Staffing

One difference between the strategic planning phase and the implementation phase is that the agency project managers are not dedicated full time to the project. They must perform their project management duties as an adjunct to their normal duty assignments. Some believe this reduces their ability to effectively communicate project issues within their agencies.

The LEADS 2000 project is requiring LESA and participating agencies to add new staff positions. LESA will be hiring additional developers as contract employees and new hires. The Sheriff's Department anticipates creating two new technical positions to provide internal application support.

Benefits for End Users

All of those interviewed are in agreement that agency personnel are very receptive to the new technology. This eagerness to use it contributes to the need to keep them informed of when it will be available.

Loc Reader, Chief of Police in Puyallup, told the story that the first day laptop computers were available in a PPD patrol car and connected to the Washington state crime

computer, an officer ran a license plate on a vehicle and it came back stolen. That underscored the new technologies' value for his staff.

The LEADS 2000 project is still in its infancy, so this case study can not address specific statistics on how it will reduce crime or save resources. According to Robert Van Gieson, the grant written for the COPS MORE 95 funding estimated that LEADS 2000 would result in the redeployment of 43.3 law enforcement officers to community oriented policing tasks. LEADS 2000 is designed to give LESA the tools to provide quantifiable measurements of how the system is positively impacting agency operations and allowing more efficient use of resources.

Costs

At this stage of the LEADS 2000 implementation, costs are lower than originally estimated. Many of these cost savings are attributed to the planning process, but other factors have also helped reduce costs. LESA's technical staff is capable of fully supporting the system; and the participating agencies contributed more in internal resources both for equipment and personnel than was originally anticipated. Robert Van Gieson commented that city and county funding sources began opening up when people saw the applications and wanted more.

Organizational Changes

The LEADS 2000 strategic plan anticipated the project would result in organizational changes both in LESA and in the participating agencies. The plan called for the review of each organization to determine whether changes are suggested to support the revised business processes and work flows. This is an ongoing process that will identify the specific changes needed and implement them. The actual changes will occur concurrently with, or preceding, implementation of the new business and automated processes scheduled within a specific stage. [29]

Summary

LEADS 2000 began as a grassroots movement to use technology to help people do a better job. It grew into an aggressive technology acquisition project that put the participating organizations on the cutting edge of information and activity management systems. It is a tribute to the agency executives that they empowered line-level users and mid-level managers to act on their vision.

LESA used the reengineering team's strategic plan to produce the RFP that ultimately resulted in the contract with MEGG Associates. LESA is fortunate to have found a technology vendor willing to share their vision and flexible enough to respond to LESA requirements.

LEADS 2000 is an aggressive technology reengineering project. Since the strategic plan set forth a detailed vision prior to the procurement process beginning, the question arises as to whether the solution with fulfill the vision. Among those interviewed, the general

[29] Law Enforcement Activity and Data System 2000, p. 42.

consensus was that the solution will provide them with 80 percent or more of the system they envisioned in the strategic plan.

At the conclusion of each interview conducted with LEAD 2000 project team members, each was asked to provide a list of “do’s and don’ts” that they would like to share with other agencies. The following is a compilation of their lists.

1. Insure there is executive support for the project.

2. Insure that there are adequate internal resources to complete the tasks for choosing the technology, training, and risk management.

3. Conduct a thorough workflow and reengineering analysis before proceeding with procurement.

4. Go outside for expertise to assist in the planning and procurement.

5. Select a flexible product that allows for ease of maintenance at both the server and the client level.

6. Select a vendor willing to respond to requested changes.

7. Insure there are internal resources available to respond to requested changes.

8. Incorporate the end users in the initial planning and design. Know what the end user wants from the new technology and win their support for the new systems.

9. Establish good internal project management teams. Give these people the authority to make decisions.

10. If choosing an existing product, make every effort to see the product in a production environment prior to selection.

11. Expect technology projects to take more time than originally stated.

12. Prepare for phased planned implementation.

13. Through the planning process, know what you want going into the procurement, but don’t expect to get it all. Be realistic.

14. Be collaborative in the decision making process. Don’t rush into a decision.

15. Be open to compromise both internally during the planning process and externally during the procurement process.

16. Empower line level personnel to participate in the planning process and decision process.

17. Understand that this is a long-term commitment both in time and resources.

18. Don’t believe everything a vendor tells you. See it for yourself.

19. Don’t be in a hurry. Do it right the first time.

20. Don’t think that technology will create less work. It creates different work. Technology doesn’t necessarily save time. It may redirect time.

21. Don’t put limits on what you can accomplish.

22. Don’t plan by your bankbook. Once the vision is in place, it is easier to find the funding.

23. Establish lines of communication at all agency levels. Keep these open and active throughout the project.

24. Don’t over promise; under promise and then over deliver.

While the LEADS 2000 project is only 25 percent completed, the plan is in place to guide the project team to a successful conclusion. It can be safely said that LESA did all the right things in laying the groundwork for success. The depth of analysis conducted during the reengineering effort is extraordinary. The departments’ commitment of resources dedicated to the planning phase is highly unusual. The strategic plan produced by the reengineering team can serve as a model for any public safety agency on the right way to approach the acquisition of new technology. The researcher encourages readers who are considering system acquisitions to contact LESA and obtain a copy of the plan.

References

Law Enforcement Activity and Data System 2000 – Leading the Way to the 21st Century, Participants: Pierce County Sheriff's Department, Tacoma Police Department, Puyallup Police Department, Law Enforcement Support Agency, September 19, 1997.

Request For Proposal G-061-97 For A Law Enforcement Information Management System (IMS), October 31, 1997.

LESA Case Management Presentation – 3/22/95 through 4/12/95

MEGG Associates web site at www.crisnet.com

Microsoft web site at www.microsoft.com

LESA web site at http://www.co.pierce.wa.us/abtus/ourorg/abtuslsa.htm

Contact Information

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