

Case Study Series

A REPORT OF THE NATIONAL TASK FORCE ON COURT AUTOMATION AND INTEGRATION

MARIN COUNTY, CALIFORNIA

CRIMINAL JUSTICE INFORMATION SYSTEM

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In 1984, top justice officials from Kern, Marin and San Joaquin counties in California decided to pool their financial and personnel resources in an innovative approach to the significant challenge of information systems integration. The strategy called for each county to design specific modules for an integrated justice information system, which would then be shared with the other consortium counties. Each county would modify the components to meet its particular business requirements.

The collective approach to systems design and implementation appealed to

two other California counties — San Mateo and Monterey — that subsequently joined the consortium. The completed Criminal Justice Information System (CJIS) created by the consortium proved so successful that, 15 years later, it still serves as the counties' primary tool for criminal justice information management.

A decade and a half after it was formed, the consortium is facing another challenge that is almost as difficult as its first. The time has come for a major CJIS upgrade. While the system continues to efficiently perform the functions for which it was designed, information technology is passing it by.

CJIS utilizes a screen-based format.¹ Users maneuver their cursors with keyboard arrow or tab keys to designated points on their screens to type in information or to gain access to the other screens containing the data they seek. The system lacks the graphical user interfaces (GUIs) such as multiple windows, mouse-directed pointers, linked icons, drop-down menus and other simple, intuitive tools that modern-day computer users have come to expect.

And while the system contains 15 years worth of data — more than 120,000 case files in Marin County, for example — it is difficult and time-consuming to utilize the information for analysis or report preparation. Also, CJIS is not integrated between consortium counties, which must

resort to data processing to exchange information.

CJIS continues to meet the needs of some users, but others are beginning to incorporate software solutions from outside the system to perform functions that were not technologically feasible when the system was designed. The San Mateo County Probation Department, for example, uses CJIS to keep track of case developments such as court dates and related information, but the department is implementing a Java Web-based application for data and information management because of CJIS' limitations. Mr. Dan O'Brien, the department's Information Technology Manager, said CJIS also lacked an accounting interface that the department needed. In Marin County, the district attorney's office is considering implementing GUI programs to create a more user-friendly environment, according to Mr. York Westgate, a System Support Analyst for the office.

Consortium counties are exploring options to protect their \$25 million CJIS investment by creating a more visually interesting format and a useful data environment for queries, research, analysis and report preparation to prevent more users from moving outside the system to meet their information management needs. Developments in Marin County are typical of efforts by consortium members to maintain the utility of CJIS.

The National Task Force on Court Automation and Integration consists of 13 State court system representatives, including judges, State-level and trial court administrators, and consultants; and 9 government and justice system officials representing prosecution, defense and law enforcement agencies, as well as a State legislator and a State chief information officer. For more information, visit www.search.org.

Marin County: CJIS Life Cycle

“It’s an unfortunate reality that shortly after a system is implemented, it is probably already beginning to decline,” said Mr. Ben Dresden, Director of the Marin County Information Services Department. Based on his CJIS experiences, Mr. Dresden identified four stages that characterize an information system’s life cycle: development and procurement, installation and use, decline and disillusionment, and abandonment or recovery.

During Stage I of CJIS, development and procurement, each consortium county worked on system components based on its primary areas of interest. Kern County prepared the field interrogation and incident modules. San Joaquin assembled the juvenile and probation modules. Kern and San Joaquin counties worked on court components, and Marin County developed the system’s booking, jail and crime report modules.

A contractor was hired to write the system’s basic code based upon a set of mutually agreed upon standards. CJIS featured a wide-area network relying on 3270 protocol and utilized a mainframe

The *Case Study Series* is published by SEARCH, The National Consortium for Justice Information and Statistics, with funding from the Bureau of Justice Assistance, U.S. Department of Justice.

This document was prepared under grant number 95-DD-BX-0017, provided by the Bureau of Justice Assistance, U.S. Department of Justice. The points of view or opinions stated in the document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice.

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Agency Generating Information	Information Exchanged	Who Receives the Information
SHERIFF	Booking Information (<i>includes arrest charges, arresting agency ID, booking #, booking date, etc.</i>)	Prosecutor, Public Defender, Court, Police Departments, Probation Department
	Inmate Management Information (<i>includes information regarding inmate’s property, location within jail, bail amount, etc.</i>)	Prosecutor, Public Defender, Court, Police Departments, Probation Department
	Inmate Medical Information (<i>includes history of charges and medical information</i>)	Prosecutor, Public Defender, Court, Police Departments, Probation Department
	Involved Person/Involved Address Data (<i>information collected regarding people associated with a specific case and their addresses</i>)	Police Departments, Prosecutor, Court, Probation Department
POLICE	Field Interrogation Cards (<i>data from cards entered into CJIS. Data includes personal identifier information, arrest information, etc.</i>)	Prosecutor, Sheriff, Court, Probation Department
	Crime Report Summaries (<i>Summaries of police report narratives</i>)	Prosecutor, Public Defender, Sheriff, Court, Probation Department
	Complaint Request (<i>citation information is transferred to prosecutor as well</i>)	Prosecutor
PROSECUTOR	Complaint	Public Defender, Court, Police Departments, Sheriff, Probation Department
	Minute Orders	Public Defender, Prosecutor, Police Departments, Sheriff, Probation Department
	Infraction Dispositions (<i>traffic and other infractions</i>)	State Department of Motor Vehicles
	Court Calendar	Prosecutor, Public Defender, Sheriff, Police Departments, Probation Department, and Public (via the Internet)
COURT	Work Referral (<i>defendant ordered to report to Probation for work detail</i>)	Directed to Probation Department, but other CJIS agencies can view the data
	Order to Release Defendant from Jail	Directed to Sheriff, but other agencies can view the data
	Search and Seizure List	Probation Department

server centric-based system, CICS² COBOL³ for transaction processing, and CA-Datcom for creating and maintaining databases.

Pieced together over a seven-year period, CJIS became fully functional in the early 1990s, and was capable of handling up to 200,000 daily transactions per county. (Marin County averages approximately 80,000 daily transactions.)

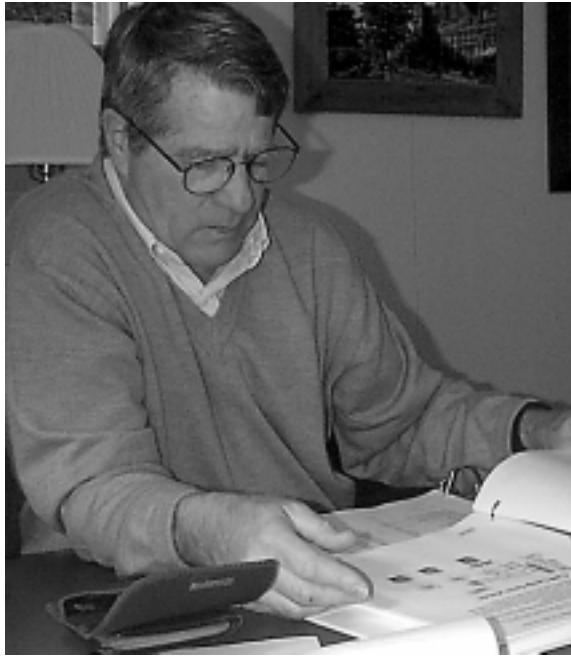
National Model

As CJIS moved into Stage II of its life cycle, installation and use, the system became a national model, showcasing the abilities of integrated systems and the accomplishments made available through the cooperative consortium effort.

The chart at left identifies some of the common transactions and information exchanges in CJIS.

In Marin County, users appreciated the reductions in redundant data entry that CJIS provided. Information entered into the system's booking module populated the entire CJIS database and served as a foundation for data subsequently added by the prosecutor and by other agencies throughout the criminal justice process. The district attorney and the public defender could view a defendant's arrest charges on CJIS, and law enforcement agencies could access an individual's probation conditions and the identity of his or her probation officer.

The county's district attorney could use CJIS to electronically file complaints with the court. (The filing of the electronic complaint constituted the official filing date.) The district attorney could also check on citation and adult probation data, and electronically receive court minutes. Courtroom clerks could enter codes into CJIS to initiate a series of actions based on what transpired in court. One referral code would alert the county's probation department that a defendant was sentenced to work detail, while another would order a defendant's release from jail. Participating CJIS agencies could electronically obtain court minutes by inputting case numbers, and were also provided with court dockets.



Ben Dresden, Director of the Marin County Information Services Department, studies the IBM upgrade proposal.

Marin County's public defender found CJIS useful for identifying conflicts that required the office to step away from a case, such as when it was called to represent an individual charged with assaulting someone who was already being represented by the office on a pending case. The probation department used CJIS as an efficient case management tool, and investigators from the department could electronically access information from the system's field interrogation module to check on the history of criminal activity at an address where an individual on probation was living.

As the years passed, however, advances in information technology and the growing technological sophistication of system users began to date CJIS. Stage III of the life cycle described by Mr. Dresden, decline and disillusionment, loomed.

Emergence of New Data Processes

The mid-to-late-1990s witnessed the emergence of concepts such as data warehousing, data mining and relational databases, processes that allowed for the storage, manipulation, examination and extraction of data — often captured in different formats — for detailed analysis, research and planning. These processes relied on data that was programmed upon

collection to interact with data that was already populating a database. CJIS, however, utilized a transaction-oriented format in which data entered into the system populated only a single case file or transaction.

“We could tell you all you wanted to know about one individual,” said Mr. Dresden. “But, for example, if you wanted to find out how many men or women committed certain types of felonies over the last 30 years, well, that was another matter. The CJIS database was not set up to conveniently provide that kind of information.”

Beginning in 1997, the CJIS consortium counties began to discuss and consider the modernization of their aging system. User groups in the five counties had assembled a list of desired system enhancements topped by a Windows look and feel, improved management and statistical reporting capabilities, imaging capability and the ability to seamlessly transfer from a CJIS screen to a desktop environment.

In the spring of 1997, the CJIS consortium entered into discussions with IBM concerning a partnership that would allow the counties to upgrade their system while providing IBM with a showcase with which to promote the company's products. IBM proposed a three-phase project

beginning with a needs assessment and prioritization of modernization tasks, continuing with the development and implementation of priority tasks, and concluding with the development of consortium/IBM marketing agreements.

The consortium contracted with IBM to carry out Phase I of the project at a cost of \$150,000 (or \$30,000 per county). IBM staff interviewed CJIS users in the five consortium counties to document the existing technical environment, future end-user needs and a vision for the upgraded CJIS. Following Phase I, IBM proposed a \$3 million project to test various programs to determine whether they could function in the CJIS environment and respond to the upgrades requested by system users. The consortium counties decided, instead, to pursue the upgrades on their own based upon the vision created by IBM following its interviews with CJIS users and its examination of the system.

“Bear in mind that IBM’s \$3 million proposal was only to prove a proof-of-concept with a small vertical slice of the system,” said Mr. Dresden.

Software Solutions

Today, Marin County is busy testing a series of software solutions to satisfy the CJIS users’ wish lists and getting the programs to merge with the system’s existing technology. According to Mr. John Martin, Systems and Programming Manager for Marin County’s Information Services Department, the county is transitioning to object-oriented programming, which is based on the use of programmed objects that include both code, or sequences of instructions, and data, or information which the instructions operate on. The programs include:

- *Sybase Jaguar*, a middleware product that delivers underlying business and data objects to the presentation layer.
- *PowerBuilder*, for the development of client/server database applications.
- *Visual Basic*, to create a graphical programming environment.



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- *Viaserv*, for transferring CICS COBOL data to an object-oriented environment.
- *OTG document imaging/object enabling*, to handle imaging functions.
- *Microsoft Web Server*, for Internet access.
- *Action Technologies Inc*, for initiating workflow from a mainframe, Web or multi-tiered environment.

“Our challenge is to get all the functions that people want onto the same piece of glass (monitor screen) at the same time,” Mr. Martin said.

He said Marin County is seeking to create a tangible vision of CJIS’ next generation. “Otherwise, how can you transition to a new environment when you don’t know where you want to go?” Mr. Martin asked.

The next step for the county is to develop pilot projects aimed at providing proof-of-concepts that the programs will work and will interact with the legacy CJIS in the manner expected. The first projects will begin in the district attorney’s office. The county is planning to present the project results to other consortium

members by the end of the year. Mr. Martin is anticipating a positive report.

“We’re going to stand up and say, ‘We proved that we could do this,’ ” he said. “ ‘Now where do you want to go with it?’ ”

ENDNOTES

¹ To view CJIS screens, and for more information on the system, visit <http://marin2.marin.org/mc/cjis/cjis.html>

² Customer Information Control System, developed to provide transaction processing for IBM Mainframes.

³ Common Business Oriented Language, the world’s second-oldest and most widely used programming language.