Technology Assistance Report

State of Illinois

Illinois Integrated Justice Information System (IIJIS)

IJIS Institute and SEARCH Technology Assistance Team

Site Visit:	June 8 - 11, 2004
Report Submitted:	August 2004
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Integrating Justice
Information Systems

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I. Executive Summary

Background

The Illinois Integrated Justice Information Systems (IIJIS) project has accomplished much in a relatively short period of time. An initial governance group was established and it completed a solid strategic plan in late 2001. The Plan identified seven strategic issues along with goals that were broad statements of intent. By Executive Order in 2003 the Governor reconstituted the governance board to take an implementation focus. The IIJIS Implementation Board comprises 26 members from the justice community. Two nonvoting liaisons from the Judicial Branch appointed by the Supreme Court also serve. The Board is led by a chairperson who has the authority to create committees as necessary. Currently there are five standing committees: an Executive Steering Committee consisting of the Chair, Vice-Chair, plus five other Board members; Planning and Policy Committee; Technical Committee; Outreach Committee and Funding Committee.

The Annual Report for 2004 enumerates the actions taken and progress to date, as well as specific initiatives funded by the IIJIS Implementation Board. IIJIS-specific initiatives include projects undertaken by Cook County Circuit Court Clerk, a statewide survey assessing the state of integrated justice, and a focus group to begin the development of a logical model framework to link planning and implementation activities to goal outcomes.

Observations on Current Project Status

After a solid beginning and the successful development of a comprehensive Strategic Plan, the integration project finds itself at a crossroad and the IIJIS Board is faced with the daunting task of translating strategic vision into a tactical plan. During the site visit, it was observed that the IIJIS Board was encountering difficulties in defining a unified sense of direction regarding next steps. As the board began the process of defining the proposed portal solution and other integration initiatives, it was also observed that the project was experiencing uncertainties vis-à-vis state and local roles, future system roles, and the development and implementation of standards.

Specific Recommendations

The recommendations can be summarized into five general areas: Assess and fine-tune governance; complete detail planning; define system roles; develop standards and policies; and create a Program Management Office (PMO).

Governance. The following three specific observations and recommendations are made with respect to governance: 1) There are no voting state court members.

Over one half of all data exchanges are from or to the courts—in more than three-quarters the court is a supplier—warrants, release conditions, no contact orders, dispositions and convictions and conditions of probation, etc. Integration will involve business practice changes and will generate data policy and data ownership issues. It is a critical success factor to have near-equivalent representation by the judicial branch on statewide initiatives. 2) The Implementation Committee at 26 members is so large it is unwieldy as an executive body positioned to make decisions. Currently, the Executive Committee's role is "to coordinate the IIJIS effort with the Implementation Board making final decisions." This may result in slow decision making and may be problematic for the long run. A new governance structure is proposed to facilitate decision making along with specific roles and responsibilities. 3) An operational committee with a strong business focus is lacking. Integration focuses on improving business operation or solving operational problems; the solutions to the business problems are enabled by technology. The operational perspective will be vital in the detail planning to follow. This perspective should be formally recognized by the Implementation Board; to not do so adds project risk.

Complete Detail Planning. A series of detailed planning steps are recommended that (as a starting point) draw from the strategic plan and from the business scenarios already developed. This includes business and technical planning. Business planning should start with the definition of state and local roles on exchanges. The state's interest is in those relatively few key business events that cause exchanges that initiate or change subject statewide identification, status and history. It is a local responsibility to provide that data during the local operational events and workflow. Additional business planning steps include: conduct state Justice Information Exchange Model (JIEM)© analysis; develop a business perspective; identify candidate business issues; develop the business case; perform a gap analysis against existing systems and develop a candidate project list. Once the business planning is completed, technical planning follows. Technical planning develops alternative strategies for accomplishing a specific business outcome. Each strategy will utilize specific technologies with associated costs and risks. A methodology is offered for prioritizing projects based upon business return, cost, and various risk factors.

Define System Roles. Conflict exists concerning a proposal to create a portal and concerning competing projects (ICLEARS and PIMSNet). Until the detail planning is completed, including the clarification of state and local roles, there will continue to be conflict. Without a clear business case for integration, traditional organizational issues emerge causing confusion and lack of focus, often stalling the project. Integration is a business-based activity. The justice system with its adversarial underpinnings, constitutional and elective authorities, and disparate funding bodies often does not act as an enterprise. Yet each agency is fundamentally dependant on the other when it concerns information used to make decisions and conduct business. The enterprise view comes from attempting

to solve business problems, to improve public safety and hold offenders accountable. ***Integration is a business-based activity enabled by technology.*** The detail planning process will develop statewide information exchange requirements and use-case scenarios and will map systems against these, identifying fit or gaps. It will clarify the role of both ICLEAR and PIMSNet, if any, and will identify specific projects which may or may not include a portal.

Create a Program Management Office (PMO) Due to the breadth, duration and impact of the IIJIS initiative, very strong program management practices need to be adopted. Program management tools, techniques and skills will be essential for its successful implementation. They include: project portfolio management, performance monitoring, financial monitoring, technology guidance, and stakeholder communication. The current project office team should be trained in these skills or a professionally certified project manager could be retained on contract.

II. Introduction and Request for Assistance

Technology Assistance Request

In early 2004, the Illinois Integrated Justice Information System (IIJIS) Board requested that the IJIS Institute, as part of a technical assistance (TA) project, review and assess two integrated justice initiatives that the IIJIS Board is seeking to implement. The first is a justice portal that provides a single point of access to several state and county-level subject record repositories for use by justice decision makers. The second initiative is a model interface that allows various police information systems throughout Illinois to share data with the Chicago Police Department's Citizen and Law Enforcement Analysis and Reporting System (CLEAR).

As detailed in the TA Request Letter submitted to the IJIS Institute, the purpose of the TA request was to provide IIJIS project staff with knowledge necessary to determine the accuracy and adequacy of statements of work (SOWs) from vendors, as well as other integration partners such as the Illinois State Police, the Chicago Police Department, and their subcontractors.

Specific work to be performed during the TA project included:

- A review of basic technologies that are available to achieve the goals of the portal and the CLEAR interface projects

- Recommendations on realistic staffing qualifications and work descriptions needed for completion of these projects

- Identification of integral components of an overall integration tactical plan and blueprint: a) for coordinating separate integration initiatives, and b) that provides a structured schedule that allows for sequencing of integration activities in light of prioritization issues, funding restrictions, and the need to leverage existing data and telecommunication capabilities and successes

- Information on how differing architectural designs for system interoperability produce corresponding risks and benefits, including how specific designs impact data ownership and stakeholder input into system operations

- Methods for determining sufficiency of existing network infrastructures (versus need for enhancement), as well as hardware and software applications of legacy data systems—in readiness for interoperability requirements associated with the planned integration initiatives

- Suggestions for managing and coordinating multiple projects and vendors to ensure:

    - Adequate input and oversight from the IIJIS Board and project manager

    - That the needs of stakeholders representing system users as well as institutional data providers are met

    - That new initiatives are co-managed in synchronicity with ongoing system development efforts by project participants (such as CLEAR)

- Advice on how the Global Justice XML Data Model (GJXDM) can best be used to ensure that reusable solutions will be put into effect rather than custom interfaces[1]

- Suggestions on strategies to resolve disagreements between project principals regarding centralized versus distributed architectures for data warehouse functionality

- Instructions on developing realistic budgets for various system development and interface activities

As part of the TA project, the TA Team performed a site visit to Chicago, Illinois, on June 8-11, 2004. This document presents the findings and recommendations from the site visit.

Technology Assistance Team

The TA project requested by the IIJIS Implementation Board involved the collaboration between the IJIS Institute and SEARCH, The National Consortium for Justice Information and Statistics.[2] Both SEARCH and the IJIS Institute solicited the assistance and participation of senior and qualified consultants. The following individuals participated in the Technology Assistance Team:

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[1] See http://it.ojp.gov/jxdm/.

[2] SEARCH provides onsite, no-cost assistance to state and local jurisdictions in planning for and implementing automated and integrated information systems. This assistance is funded by the Bureau of Justice Assistance, U.S. Department of Justice. See www.search.org.

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III. Background

The SEARCH and IIJIS Institute Technology Assistance Team (TA Team) completed a document review prior to the site visit. The IIJIS Website contained much relevant project documentation and was an invaluable resource to the TA Team. During the onsite visit additional material was made available, and the Team had the benefit of three days of presentations and question and answer interaction. This section documents key background information that the TA Team believes is relevant to the Observations and Analysis and the Recommendations sections of the report.

Governance Structures

The Illinois Integrated Justice Information System Implementation Board was created by Executive Order 16 in 2003. It comprises 26 members from the justice community who serve without compensation. The Executive Order allows IIJIS Board members to appoint a designee to serve in their place, and currently 12 of the 26 members are designees. The Clerk of the Circuit Court of Cook County and a representative appointed by the Illinois Association of Court Clerks serve as voting members. Two nonvoting liaisons from the Judicial Branch appointed by the Supreme Court also serve. The Board is led by a chairperson who has the authority to create committees as necessary. Currently there are five standing committees—an Executive Steering Committee consisting of the Chair, Vice-Chair, plus five other Board members, a Planning and Policy Committee, a Technical Committee, an Outreach Committee, and a Funding Committee. There is, however, no committee with an operational focus. The Executive Order directs the Implementation Board to carry out the IIJIS strategic plan and to set goals and objectives for integrated justice information systems. The Executive Order also grants specific powers, duties and responsibilities to the Board in order to implement the plan.

Strategic Plan

The body conceived prior to the Implementation Board, the IIJIS Governing Board, completed a strategic planning process and adopted an IIJIS Strategic Plan in December 2001. The Plan identified seven strategic issues along with goals that were broad statements of intent. The seven Strategic Issues include the following:

1. Establish a governing body comprised of justice stakeholders to guide the development and implementation of electronic justice information sharing initiatives;

2. Justice information should be collected electronically at its source, shared appropriately, and made available for repeated use within the justice system;

3. Establish guidelines that serve justice, public safety, and homeland security needs while protecting privacy, preventing unauthorized disclosures of information, and allowing appropriate public access;

4. Coordinate sufficient funding and other resources for integration;

5. Establish standards and regulations for data exchange and infrastructure development;

6. Establish a secure, reliable, effective, and efficient IT infrastructure that facilitates information sharing;

7. Establish rapid identification through biometric technologies.

The 2004 Annual Report details the actions taken and progress to date as well as specific initiatives funded by the IIJIS Implementation Board. IIJIS-specific initiatives include projects undertaken by the Cook County Circuit Court Clerk, a statewide survey assessing the state of integrated justice, and a focus group to begin the development of a logical model framework to link planning and implementation activities to goal outcomes. Related projects (those impacting integration but not funded by the Board) were identified and are discussed below.

Large Initiatives Underway

— State Systems

The State of Illinois has undertaken and supported several justice technology-related efforts, which will greatly improve the administration of justice in the state. To further this progress, the Illinois Criminal Justice Information Authority (ICJIA), through the leadership of the IIJIS Board, has begun planning for integration among these systems, identifying future functions, the range of information exchanges, as well as interactions needed among primary entities in the justice enterprise for information sharing in Illinois.[3]

The information that follows describes each of these systems and the role they will play in this broader state integration effort.

LEADS

LEADS is the Law Enforcement Agencies Data System, which is managed by the Illinois State Police (ISP). The system provides immediate access to criminal history information, stolen vehicle

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[3] Appendix B: Scenario for Information Sharing in Illinois, Illinois Integrated Justice Information System. See http://www.icjia.state.il.us/IIJIS/public/pdf/strategicplan_final.pdf.

information, wanted person information, and other important data for law enforcement. LEADS includes five primary record files: NCIC; NLETS; SOS, which provides driver's license information; LEADS CHF, which interfaces with national repositories, such as sex offender registration, missing persons, etc., and LEADS Information.

There is currently an effort underway to integrate the Chicago Police Department's (CPD) Citizen and Law Enforcement Analysis and Reporting System (CLEAR) and the ISP's LEADS to create one integrated technology solution to support all law enforcement in the state, using the LEADS network, which is being migrated toward new technologies that will allow images and multimedia investigative tools to criminal justice decision makers statewide.

ICLEAR

ICLEAR is the Illinois Citizen and Law Enforcement Analysis and Reporting System, which was developed from the City of Chicago's records management system. ICLEAR is an incident-based police database that will enable Illinois police officers to track patterns of criminal activity statewide. ICLEAR will contain any information that results in a police report, including information that does not result in an arrest. ICLEAR is a cooperative program that will be run jointly by the Illinois State Police and the Chicago Police Department. Full deployment is expected within three years. ICLEAR information will also be made available over IWIN (see below), the State Police wireless information network.[4]

PIMSNet

Police Incident Management Network (PIMSNet), which is a new Windows-based version of the Illinois Criminal Justice Information Authority's Police Information Management System (PIMS). PIMSNet is a police records management system, managed by the Authority that services 50 Illinois police departments. PIMSNet provides police agencies with an updated incident reporting and police management system including calls for service, case reporting, case management, and administrative reports.[5] PIMSNet includes document management functionality that allows law enforcement agencies to properly record, store, and retrieve department records.

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[4] For more information, see:
http://www.icjia.state.il.us/iijis/public/pdf/newsletter/vol1issue1_spring2004.pdf

[5] For more information, see:
http://www.icjia.state.il.us/iijis/public/pdf/newsletter/vol1issue1_spring2004.pdf

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IWIN

Illinois Wireless Information Network is the State of Illinois' mobile wireless network infrastructure. In 1998, the state signed contracts with two vendors to provide the necessary network, hardware and software components to implement a statewide wireless service.

IWIN has been operational since February 2000. Its speed and efficiency are attributed to its robust middleware and client software as well as CDPD coverage provided by the contracted carriers. User data is digitized, encrypted, compressed, and then transmitted in "packets" using cellular tower sites equipped with a special message server switch maintained by the State of Illinois. This server links remote users to their desired agency databases. IWIN's speed and ease of use allows its users to have real-time direct access to information through a Microsoft Windows screen, thus improving field operations, enhancing personal safety and reducing radio congestion.[6]

POLARIS

Presently, the Administrative Office of Illinois Courts (AOIC) collects aggregate-level data on probation caseloads from each county probation department. The POLARIS project involves the planning and design of a centralized data warehouse for collecting individual-level data on probationers from across the state. The Probation On-Line Automated Reporting Information System will provide support to probation officers and community corrections organizations by providing case management support to the Department of Probation Services. POLARIS is a relational data warehouse that supports decision making by organizing data around high-level classes, such as groups of offenders, rather than on a transaction-by-transaction basis. POLARIS assists in the effective supervision of offenders by tracking the services provided the offender, probation officer/offender interaction, as well as provides information about emerging trends and "best practices" in the field of probation and offender supervision.[7]

In this way, POLARIS is expected to provide an opportunity for individual departments and AOIC to analyze trends, perform group comparisons, and provide an empirical basis for evaluating probation programs, strategies, and practices.

POLARIS was originally conceived to serve the needs of AOIC and each

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[6] See http://www.state.il.us/IWIN/about/History/HistoryDefault.htm.

[7] See Developing a New Probation System: POLARIS (This document was distributed to the TA Team during the site visit). http://www.icjia.state.il.us/IIJIS/public/index.cfm?metasection=strategicplan

of the county probation departments in the state. As a result of AOIC staff involvement in the IIJIS project, preliminary discussions have taken place concerning the possibility of making POLARIS data available to other justice system decision makers.[8]

AVN

AVN is the Automated Victim Notification System, which provides information about offender status and case information to victims as well as the criminal justice community. It contains information such as court dates, jail, probation and parole status, work release, home detention status, and includes information about escapes.

The information that feeds AVN is collected from county court clerks, county jails, the Illinois Department of Corrections, the Illinois Department of Human Services, and the Prisoner Review Board. The data is collected directly from these agencies' local computer systems, so there is no duplicate data entry. AVN uses an Internet-based Website to transfer, query, and manage information.[9]

CHRI

CHRI is the State Criminal History Record Information repository, which is maintained by the Illinois State Police (ISP). Pursuant to the Criminal Identification Act (20 ILCS 2630/2.1), the ISP manages the CHRI in Illinois. CHRI currently consists of four types of criminal history data: arrest information, charge information, disposition and sentencing information, and custody information. The CHRI repository currently holds information on 3.7 million offenders and is the fifth largest criminal history repository in the nation. All police agencies, sheriffs (as custodians of the county jail), state's attorneys, circuit court clerks, and the Illinois Department of Corrections participate in the program. Approximately 800 criminal justice agencies with over 20,000 computer workstations have access to CHRI data through the LEADS Computerized Criminal History (CCH) inquiry function. The security of LEADS access to CHRI is governed by LEADS Policy Board regulations, written interagency agreements between LEADS users and the ISP, and audits by ISP personnel.[10]

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[8] For more information, see:
http://www.icjia.state.il.us/IIJIS/public/index.cfm?metasection=strategicplan&metapage=sjis_polaris

[9] See IIJIS Law Enforcement Agencies Data Systems:
http://www.icjia.state.il.us/IIJIS/public/index.cfm?metasection=strategicplan&metapage=sjis_leads

[10] For more information, see:
http://www.icjia.state.il.us/IIJIS/public/index.cfm?metaSection=StrategicPlan&metaPage=sjis_chri

ALERTS

> Developed and operated by the Illinois Criminal Justice Information Authority, ALERTS is an Area-wide Law Enforcement Radio Terminal System that combines traditional radio technology with data communications. It allows officers of all participating jurisdictions statewide to share information. Specifically, ALERTS provides Messaging, Emergency Requests for Assistance, LEADS access, Activity Lists, access to Secretary of State records and FBI records, and Local System Interface capabilities.

— County Level Initiatives

Cook County

> On May 1, 2003, Cook County released its Integrated Criminal Justice Information Systems Strategic Plan. The plan makes recommendations regarding the need to conduct a formal needs assessment in addition to defining roles among county agencies involved in integration. Finally, it details many of the data exchanges that have either been electronically implemented, or are still paper based. A tactical plan for integration is currently underway. Finally, an RFP for a proof-of-concept to implement several exchanges between the court clerk and Chicago Police Department has been issued.

Lake County

> Lake County has completed documenting adult criminal and juvenile exchanges. Additionally, exchanges concerning abuse and neglect have been documented. Lake County has taken a significant step forward by installing the State's Attorney's case management software on the same system as the court case management software. In this way exchanges between the two agencies will be implemented. Moreover, an RFP for an integrated Lake County Sheriff Records Management System and Jail Management System was issued in June 2004.

McLean County

> In 1997, McLean County began implementing E*Justice—an integrated software package with courts, attorney, law enforcement and jail modules. The system provides information sharing across all county criminal justice agencies utilizing a single shared database. Integration may be limited to the agencies subscribing to, or the functionality provided within, this system and may limit its effectiveness in a more broad based integration scenario.

DuPage County

> DuPage County has implemented the DuPage Unified Court System, which provides the ability for the Sheriff, States Attorney, Public Defender, Court Services, Forensics, and local law enforcement agencies to access court records. In addition, criminal charges and bonding information are electronically transmitted to the Sheriff's department.

Champaign County

> Champaign County is in the process of implementing the JANO Justice System Management application. It promises to electronically link the records of the Sheriff, States Attorney, Public Defender, and Court Clerk.

McHenry County

> McHenry County has documented the exchange points for adult criminal and juvenile delinquent processes. They are working with their court case management system to develop an interface with the County Sheriff to implement electronic transfers of arrest warrant information.

IV. Observations and Analysis

There are many positive aspects to the IIJIS initiative as reviewed by the TA Team in July 2004. Some of the activities are of a best-practice nature that positions the project to be successful. Of special note is the formal governance structure and articulated powers, duties and responsibilities. Also of note is the completion of the strategic plan. These are the foundation to successful integration projects, and Illinois is to be commended for taking the time at the outset to put these in place. A committee structure has been established and much has been accomplished by the committee concerning specific goals contained in the Plan. The TA Team sensed a commitment to integration, a high level of energy, and a strong buy-in to the Plan.

Often project reviews can be interpreted as only focusing on the negative aspects of projects. The TA Team wants it to be made clear that there is much that is positive about what has been accomplished in Illinois. Single agency IT projects are difficult enough, but integration projects that impact multiple-agency business practices, data policy and technology are far more challenging to accomplish. In what follows, we have kept in mind the many positive aspects of this project and identified aspects that we viewed as a risk to the project in the form of current or potential obstacles to success.

Governance

We have made the following three observations with respect to governance: 1) there are no voting state court members; 2) the Implementation Committee at 26 members is so large as to be unwieldy as an executive body positioned to make decisions, and 3) an operational committee with a strong business focus is lacking. SEARCH has found in its development of reference exchanges on the Justice Information Exchange Modeling Tool[©] (JIEM)[11] project that over 55% of all exchanges are to or from the courts and that in three quarters of the total court exchanges the court is the **supplier** of data. Whether it is warrant data, release conditions, disposition and conviction data, probation conditions, no contact and domestic abuse restraining orders, all originate in the courts and the information is of vital interest to other agencies. Integration will involve business practice changes and will generate data policy and data ownership issues. It is a critical success factor to have near equivalent representation by the judicial branch on statewide initiatives.

Likewise, while integration focuses on improving business operations or solving operational problems; the solutions to the problems are enabled by technology.

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[11] Information about the Justice Information Exchange Model[©] is available at http://www.search.org/programs/technology/jiem.asp.

The operational perspective will be vital in the detail planning to follow. To not formally recognize this on the Implementation Board adds project risk.

Currently, the Executive Committee's role is "to coordinate the IIJIS effort with the Implementation Board making final decisions." This may prolong the decision making process and might prove to be problematic in the long run.

Funding

Funding for current and future initiatives is critical for the support IIJIS program objectives. Success in this area can result in consistent progress toward identified goals and provide widespread support for identified activities.

The IIJIS Board has managed to effectively acquire and manage funds for the development of the Strategic Plan. In addition, there is limited funding available from the strategic planning phase as well as federal Anti-Drug Abuse Act (ADAA) and Byrne funds designated for the IIJIS effort. However, this funding appears to be limited and would not be sufficient to fully support the statewide strategic vision of the integration initiative. The IIJIS Board is currently looking to expand and secure additional funding that could be used to develop a tactical plan and eventually support subsequent project phases.

To assist in this effort the TA team has identified a variety of funding sources available at the federal level, the most recent being the COPS Interoperable Communications Technology program, which is led by the Chicago Police Department and includes two metropolitan statistical areas (MSA's) and nine Illinois counties including Cook. These and other funding programs will be vigorously pursued by the IIJIS Board.

Outreach

Outreach is another important facet of an integrated justice program, and can have a significant impact on integration program progress and the perception of success. Consistent, informative communication to governance and funding authorities, agency leaders, and program participants can help to foster credibility about program activities and progress. It can also help to minimize the emergence and spread of negative rumors about program initiatives, intent, and impact on existing operations. By providing a constant stream of progress and planning information, outreach programs have the ability to sustain an integration project efforts during times of limited progress based on a variety of reasons, including lack of funding, political or legal issues, and technology challenges.

The comprehensive outreach program presented to the TA Team garners broad support and provides ready delivery of status and information on events. The program is effective at defining itself both to active participants and to other agencies within and outside the State of Illinois. It is innovative and the far-

reaching efforts hold significant advantages in communicating IIJIS Board current status as well as its future capabilities and goals.

Outreach can also be a key factor in the pursuit of funding. Communicating effectively to funding decision makers on program success and future intent can result in successfully obtaining scarce funding dollars. The more funding authorities know on an on-going basis about program successes the greater the chance that the program will obtain funding.

Uncertain Direction and Roles

During the pre-site visit conference call, presentations and question and answer sessions while onsite, the TA Team observed a lack of certainty about next steps that manifested in frustration among stakeholders and conflict concerning several issues and projects. The following are some of the issues confronting the project:

— Project Status

After a good start establishing governance, completing a strategic plan and making progress on a number of objectives identified in the plan, several stakeholders expressed concerns that the project had stalled and that it lacked a clear sense of direction, or at least a consensus on direction. To quote one stakeholder the project is "bogged down in the specifics." In part, this issue led to the request for the TA visit. The TA request contained twelve questions covering a variety of project issues, including:

- Governance, relationships and role definitions

- Planning

- Business requirements

- Technical requirements and architecture

- Project management, staffing and budgeting

The TA Team believes that the lack of consensus on direction and next steps is related to the observed conflict. The following were observed issue areas that if not resolved threaten the success of the project. These include conflict ICLEAR and PIMSNet, and the proposed portal. In addition, uncertainty concerning state and local roles and standards and standards-setting seemed poised to generate additional conflict.

— Defining System Roles: ICLEAR and PIMSNet

ICLEAR represents a partnership of the Chicago Police Department (CPD) and the Illinois State Police (ISP), but is not an IIJIS initiative. It has a series of ambitious goals including: expanding the CPD criminal case and incident

and management system to the ISP and ultimately, cost free, to all law enforcement agencies; remove the redundancy of CPD and ISP criminal history records; expand current CLEAR data warehouse and analytic capabilities to all law enforcement officers via the ISP's data network; and provide crime-solving information directly to officers on the street via the state wireless network. PIMSNet is an initiative by the Illinois Criminal Justice Information Authority—also not an IIJIS initiative—to upgrade the law enforcement record management system (RMS) in use by 50 agencies statewide to a browser-based system to replace the old mainframe-based PIMS system. The old system is fee-for-use and used by agencies from small to large. To the credit of the stakeholders there was an open discussion of the conflict about the two systems, both of which portend to serve a large portion, if not all, of the law enforcement community in the state.

A more detailed summary of both projects was provided in the Background section. Unfortunately, the TA Team was unable to clearly identify the intended business functionality objectives and differences between the systems in the short time available to them. However, the conflict was quickly apparent and is considered a risk to the project. It is interesting to note that in the 2004 Annual Report neither project is identified as an IIJIS project. ICLEAR is identified as a "Related Initiative" and PIMSNet is not mentioned at all.

— **Defining System Roles: Portal Proposal**

The mechanism that the state is considering for comprehensive information integration is the Illinois Justice Network Portal. The portal concept has been created in response to the IIJIS Strategic Plan, which identifies the need to provide improved access to and enhanced state-level systems and the creation of county-wide integrated justice systems.[12] Specifically, the portal would provide the following functionality:

- Comprehensive criminal justice inquiry;

- Inmate locator;

- Mug shots;

- Driver's license and registration information, maintained by the Secretary of State;

- Appropriate information about juvenile records;

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[12] Proposal: Illinois Justice Network Portal. See http://www.icjia.state.il.us/IIJIS/public/PowerPoint/1.

- SID/IR lookup;

- Master name file;

- Notification service; and

- Bulletin board.

As part of the Strategic Plan, the IIJIS Technical Committee conducted an analysis to identify the current status of justice information sharing throughout Illinois to identify gaps.[13] Although successful at identifying the obstacles and challenges that prevent the accomplishment of the desired information exchanges, this gap analysis does not address the portal solution's specific business requirements. Because the business case for the portal has not been developed, there is no consensus as to the next step for the portal initiative. Conflict regarding the portal solution was quickly apparent and is considered a risk to the project.

— IIJIS Project's Role Compared to State and Local Agency Roles

The TA Team detected uncertainty about the role of the state as embodied in the IIJIS project[14] effected through its governance structure vis-à-vis state agencies (State Police, court system, etc.) and counties and cities. Some of this was made apparent by the conflicts noted above and by the uncertainties concerning the next steps of the integration initiative. For example, should the state, through the IIJIS project, be fostering or providing state-developed applications for local use such as police records management systems, or should the state set standards for what data those applications provide, in what format, and when? Through past experience the TA Team has seen how uncertainty about roles can stall integration projects. Rapid resolution of roles is important to position the project and quickly move ahead.

— Uncertainty about Standards and Standards Setting

The role of the IIJIS Board in providing directions on a variety of standards, models, or consistent statewide programs had not been defined at the time of

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[13] See Appendix 3 (p.66) of the IIJIS Strategic Plan 2003-2004:
http://www.icjia.state.il.us/IIJIS/public/pdf/strategicplan_final.pdf.

[14] The term "state" can have many meanings and as a result can be confusing. In this case our reference to the state is to the IIJIS Project as the embodiment of the enterprise view of justice information, and not to any particular agency, and not to the Illinois Criminal Justice Information Authority.

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the site visit. The Board is well suited to embark on these activities as they have the momentum, participation level, organizational structure, and domain constituency to be effective. Identification of issues to pursue and how to best promulgate the results is the next challenge. Specific information regarding the different types of standards and the process used to develop and implement them can be found in the Recommendations section of this document (see *Develop Policy and Standards* – Business and Technical sections).

Project Management Methodology at the Program Level

Although the IIJIS Board has been effective with its project management methodology to this point, it has been within the scope of inventing, defining, and establishing itself for the most part, and has not reached the point of achieving demonstrable integration. This distinction is important as each of the phases in the lifecycle of an integrated justice program require a different mind and skill set as well as structure, authority, reporting chain, and methodology to be successful.

The IIJIS Board has multiple projects, priorities, and complexities occurring along with current development activities. Use of a standard project management methodology is imperative.

V. Recommendations

Assess and Fine-tune Governance

It is not uncommon for large projects—especially large statewide projects—to continually fine-tune governance structures as projects proceed from stage to stage, much as Illinois is transforming its governing board to focus on implementation following the strategic planning phase.

— Membership

The project should consider making the current judicial branch members voting members (currently non-voting) and adding at least two more. It should suggest that one of the two new members, if not both, specifically have trial judge experience. As noted above, the courts are key players in integration and integration will involve business practice changes and generate data policy and data-ownership issues that impact the courts. It will be difficult to be successful without the courts at the table and "owning" these key policy decisions. It is a critical success factor to have near-equivalent representation by the judicial branch on statewide initiatives. Likewise some judicial branch members should be part of the Executive Steering Committee.

— Roles and Responsibilities

The roles and responsibilities of the Board and the Executive Steering Committee (Executive Committee) should be further defined.[15] Currently the Executive Committee's role is "to coordinate the IIJIS effort."[16] The 26-member Board is probably too unwieldy to act as a final decision making body. All the work of the individual committees should be approved by the full Board and then forwarded to the Executive Committee for final approval.

The Board's committee structure is sound, with one exception—the lack of an operational or user committee that only focuses on justice and public safety operations.[17] This committee should include subject matter and business
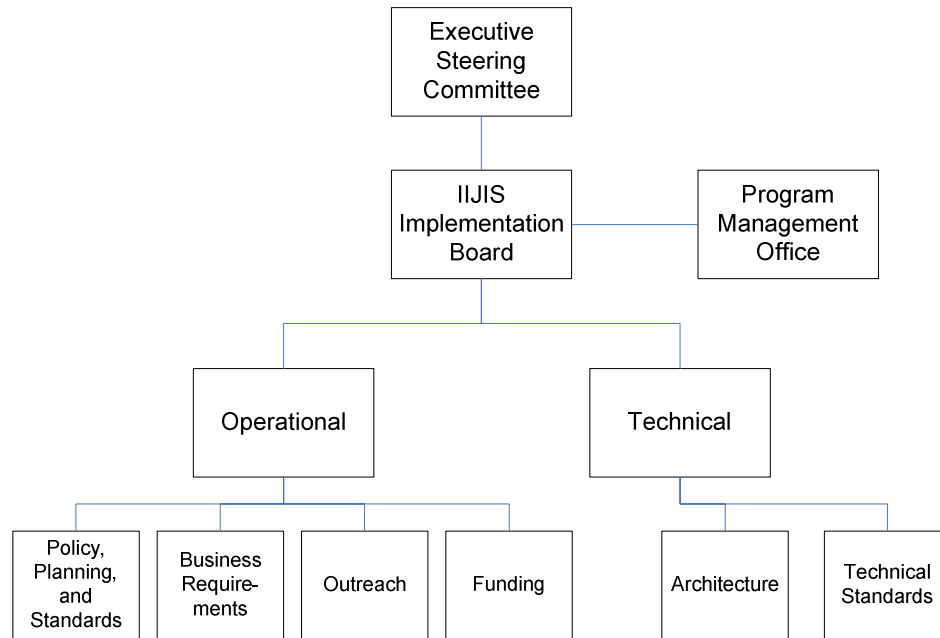
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[15] As noted in the Background section, the Board was established by Executive Order. Appendix 5 of the 2003-2004 Strategic Plan contains legislation that would empower the governing body. The state is encouraged to adopt empowering legislation. This formally institutionalizes governance so that it survives changes in leadership.

[16] 2004 Annual Report, p.4. See: http://www.icjia.state.il.us/IIJIS/public/pdf/iijis2004annualReportFINAL.pdf

[17] The IIJIS Planning and Policy Committee may be providing the operational focus to some extent. It is not clear to the TA Team if the Committee is still performing this role, and/or if the membership is at the

process experts. The committee should participate in the future planning activities that are described below, analyze existing workflows, define how integration will support business needs and processes, look for efficiencies, and establish requirements. It should provide the "business architecture" perspective much like the Technical Committee provides the "technical architecture" perspective.[18] A "straw model" governance chart is proposed as follows:

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                    ┌─────────────┐
                    │  Executive  │
                    │   Steering  │
                    │  Committee  │
                    └──────┬──────┘
                           │
          ┌────────────────┴──┐        ┌─────────────┐
          │      IIJIS        │        │   Program   │
          │  Implementation   │────────│ Management  │
          │      Board        │        │    Office   │
          └────────┬──────────┘        └─────────────┘
                   │
       ┌───────────┴────────────────────────┐
  ┌────┴─────┐                          ┌────┴─────┐
  │Operational│                         │ Technical │
  └────┬──────┘                         └────┬──────┘
       │                                     │
 ┌─────┼──────┬────────┬────────┐      ┌─────┴──────┐
┌┴──┐┌─┴──┐┌──┴──┐┌────┴──┐      ┌──┴────┐┌───┴────┐
│Policy,││Business││Outreach││Funding│   │Architecture││Technical│
│Planning,││Require-││       ││       │   │           ││Standards│
│ and   ││ments  ││       ││       │   │           ││        │
│Standards││      ││       ││       │   │           ││        │
└───────┘└──────┘└──────┘└───────┘   └──────────┘└─────────┘
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The further definition of the state and local roles recommended below in the Detail Planning recommendation can be used as input to clarification of the roles of the two groups. In addition, the role of a Program Management Office (PMO)[19] is critical. It will be discussed below and will complete the recommended project organization and role definition. A properly defined and structured Executive Committee, Board and PMO with clear roles and responsibilities will position Illinois for success. The following sample relationships chart is offered and will be further defined below:

operational versus the executive level.

[18] For a good discussion of business and technical architecture see NASCIO Enterprise Architecture Toolkit V2.0, https://www.nascio.org/publications/index.cfm.

[19] See Project Management Institute, PMBOK at http://www.pmi.org/prod/groups/public/documents/info/pp_pmbokguide2000excerpts.pdf.
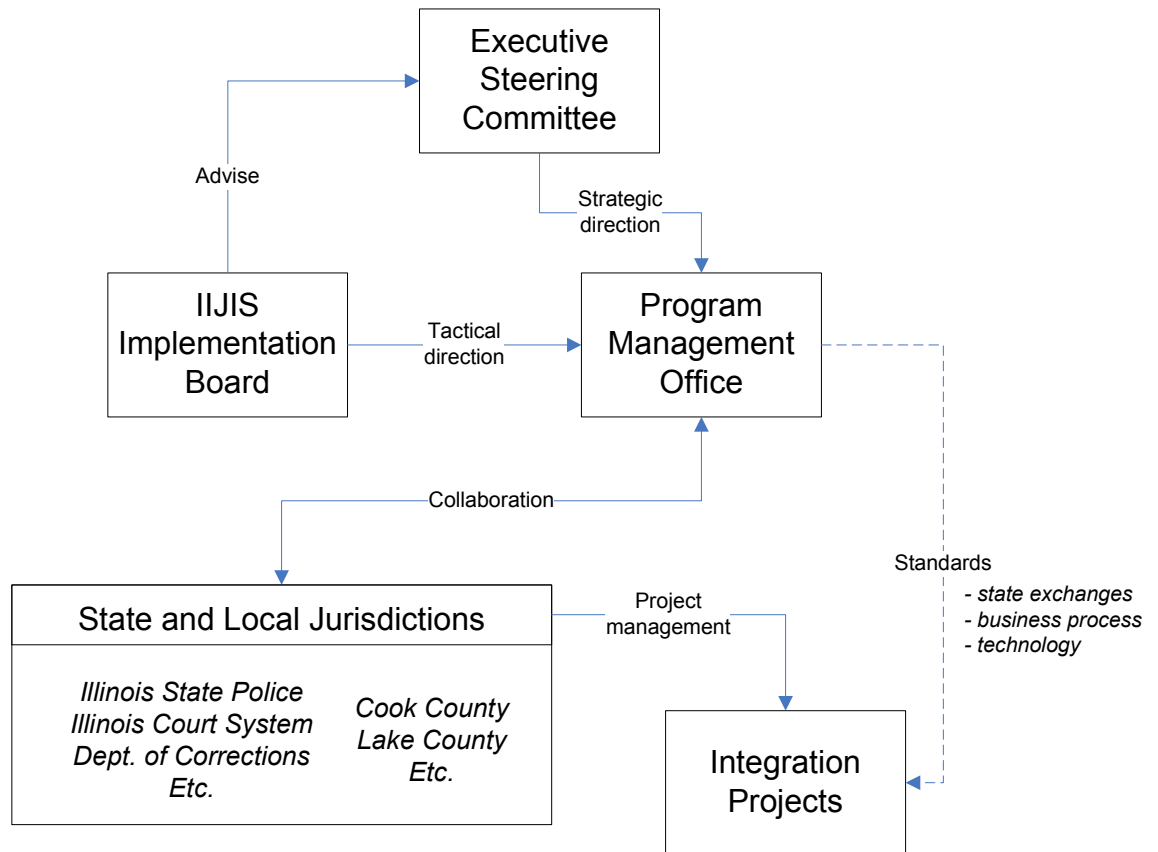
Complete Detail Planning

— Business Planning

Develop Policy on State vs. Local Role in Exchanges

Criminal justice information exchanges occur at both the state and local level, and there are characteristic differences between them.

Local exchanges – Local exchanges tend to focus on efficiently enabling the everyday workflow between local entities, as well as response to and prevention of crimes and incidents, and case processing. Examples include reducing redundant data entry, carefully scheduling staff (arresting officers, attorneys, judges, etc.) to prevent wasted time, reviewing law enforcement incident reports to determine probable cause, etc.

State exchanges – State exchanges are primarily focused on maintaining statewide information on subject identification, status and history that are consumed by all agencies making decisions during critical events, such as a traffic stop, arrest, pre-trial release, disposition, or placement on probation, etc.

These needs are not incompatible, but it is important to understand that state and local entities have different roles to play, and different interests, in these exchanges.

What is the compelling state interest in the local workflow? It is not in the information exchanges that are controlling the local business process. Rather, the state's interest is in those relatively few key business events that cause exchanges that initiate or change subject statewide identification, status and history.

State exchange examples include:

- *Biometric identification (DNA, fingerprints, booking photos, DL photos, etc.)*
- *Warrant and warrant recall*
- *Release status*
- *No contact and restraining orders*
- *Disposition and conviction*
- *Weapons prohibition*
- *Probation conditions*
- *Predatory offender status*
- *Gang membership*
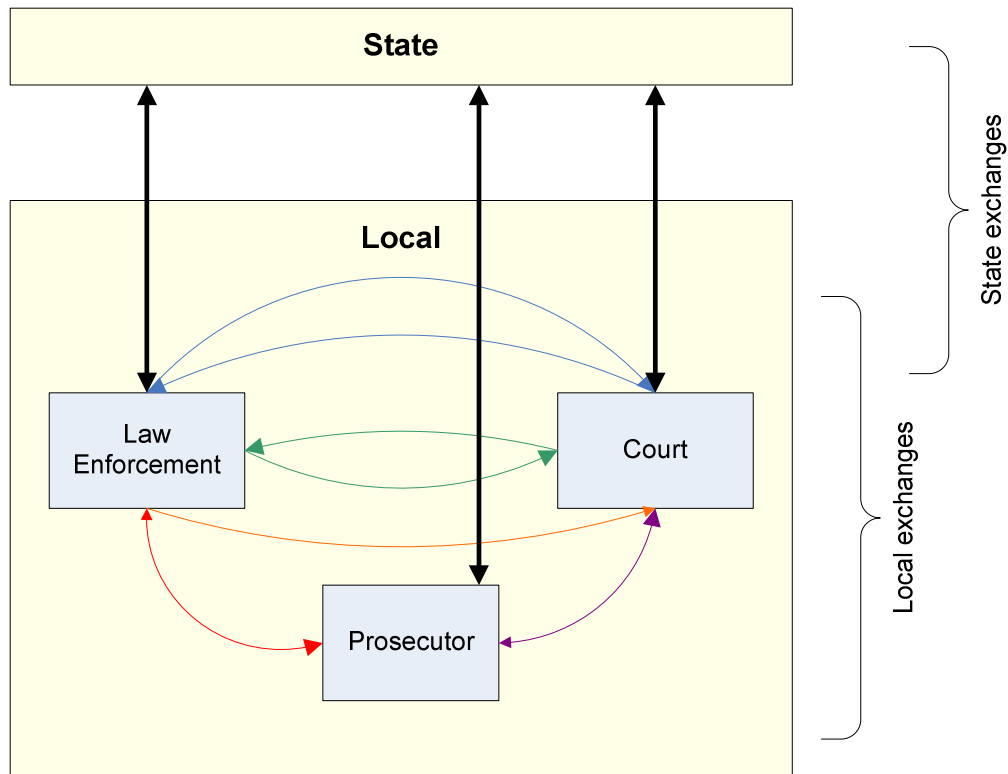
The state's primary role should be to set policy and standards on the state exchanges. Local entities should retain the freedom to implement local exchanges in the most efficient way for their local area, subject to key exchange points where state exchanges take place.

The state should focus its energies on fostering these key state-level information exchanges that help all jurisdictions share information on subject identification, status, and history. Projects that support this capability should be supported by the state, either through direct funding support or through supporting standards and policies.

The state is also responsible for the relationship to federal inter-state data collection and sharing responsibilities as well as federally sponsored integration initiatives.

Conduct a JIEM[©] Analysis of the State Exchanges

The SEARCH JIEM Modeling Tool provides a Web-based user interface, business logic, and relational database designed to document information flow and business rules in criminal justice operational processes (at no cost).[20] In using the modeling tool, representatives of justice system organizations discuss and analyze current data flow within their operations and enter specific information about each exchange. Once the data about all of the exchanges are entered into the modeling tool, it is possible to generate tabular and graphical reports that help criminal justice leaders understand how their system works at a level of detail far greater than was known—or possible—before. The tool also has been designed to interface with the Global Justice XML Data Dictionary (GJXDD).

This information can be used to identify redundancy, bottlenecks, and opportunities to improve justice system work flow. It also identifies the individual exchanges that should be the highest priority for automation and provides critical information for design of the interfaces.

The Illinois analysis of state exchanges will provide the basis for the detail business rules and data that will support the statewide view of identity, status and history. It will enable or support the following steps.

Develop Business Perspective

Detail planning is a process that examines the high-level business issues,

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[20] JIEM Modeling Tool, *supra*, note 11.

defines the business case for addressing those issues, prioritizes resulting projects, and produces an overall timeline for accomplishing those projects.[21]

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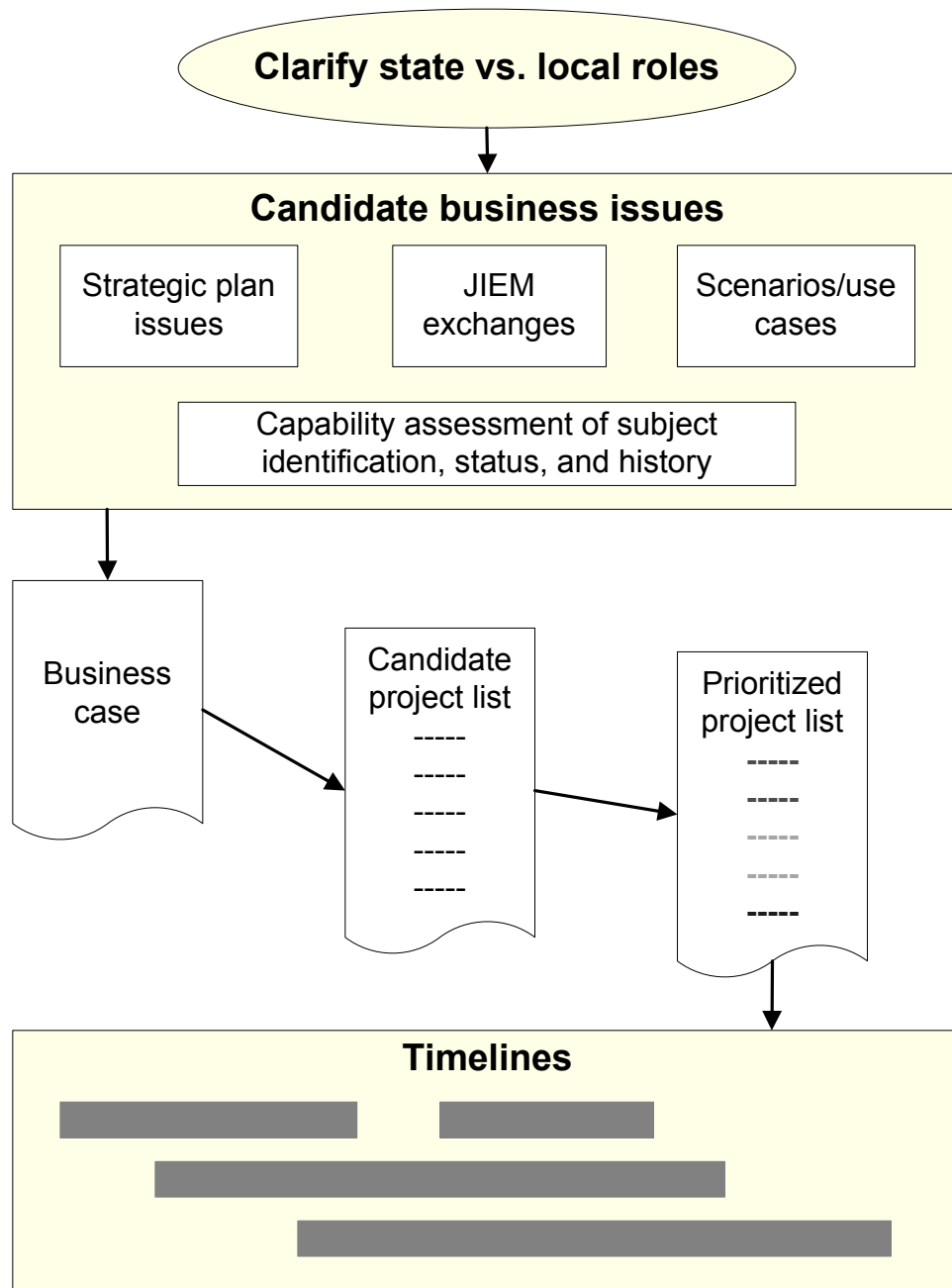
[21] See "Roadmap for Integrated Justice: A Guide for Planning and Management," p8, published in *Information Systems Integration: A Library of SEARCH Resources for Justice and Public Safety Practitioners*, 2004. Available to download at: http://www.search.org/files/pdf/IntegrationLibrary.pdf . For purposes of this report we are including sections 9, 10 and 11 in "detail planning."

Candidate business issues

Detail planning begins not with technology, but with a business perspective of the issues already identified in the strategic plan. There are many issues identified in the strategic plan that warrant attention. But some are likely to be more critical than others. The first planning step is identifying a candidate list of issues to address. The existing materials provide an excellent source for these:

o   The strategic plan issues

o   The scenarios/use cases noted in the strategic plan

o   JIEM exchanges from Cook County and the statewide JIEM analysis

In addition to these materials, consider assessing the timeliness, completeness, accuracy, and accessibility of statewide subject identification, status, and history.[22]

Develop business case

For each item in the list, develop a business case demonstrating the justification for investing in this issue. The business case should address information such as the business need, what alternatives exist, what the benefits are, etc. For more examples, see Appendix B.

The list should then be filtered. Those items where the business case is viable should be examined in greater detail.

Complete gap analysis and candidate project list

For each business issue under consideration, perform a gap analysis comparing the business need with how the current systems are addressing the need, if at all. There may be partial system support or no support at all. Or perhaps the current system constrains the users to an out-of-date business process that needs to change to support new conditions.

The candidate project list should consist of projects to address these gaps. For each, a business case should have been written, as described previously. This list should consist of projects that are considered to have statewide impact, rather than including all local projects.

The list should include both ongoing and future projects, and there may be dependencies between some projects.

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[22] See "Roadmap," for a good beginning framework for assessment, *ibid*.

— **Technical Planning**

The IIJIS Board has identified a variety of useful long-term strategic issues that have been used to guide the direction of committee activities. During discussions, however, it was determined that a more detailed set of technical directives—or technical plan—should be developed. The technical plan, with its clearly defined directives and technical strategies, might provide a clearer operational direction for both the IIJIS Board and agencies participating in the statewide integration effort. In addition, the development of the technical plan will allow the IIJIS Board to identify and filter activities that are not "in synch" with the long-term Strategic Plan. Technical planning should address the following topics:[23]

Technology

The technical plan should define a statewide strategy for technology utilized when sharing justice and other pertinent information both within and across jurisdictions by defining suggested technologies and how each can best be used depending on specific local justice enterprise environment.

Architecture

The architecture plan should define a statewide strategy for sharing justice and other pertinent information both within and across jurisdictions by defining suggested conceptual frameworks and how each can best be used depending on specific local justice enterprise environment.

Security Standards

The security standards plan should provide review resources to adopt a strategy and produce statewide security requirements that will enable justice records to be shared both within the justice community and to the public. National standards and models should be utilized wherever possible to provide consistency with federal and inter-state integration efforts.

Application Standards

It is recommended that the IIJIS Board develop a list of application standards, provide review resources, and adopt a strategy to assist state agencies in clarifying how Illinois may best deliver local and state records to regional and Federal programs. This could include the selection of a unified or unifying strategy for law enforcement records management systems (RMS), court case management systems, and other application

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[23] "NASCIO Enterprise Architecture Development Tool-Kit v2.0," *supra*, note 18.

systems listed in the Strategic Plan.

Develop Final Detail Plan

— **Prioritize and Select Projects**

There should be a structured process for selecting which projects should proceed. A leading method used in application portfolio management is evaluating project **value** versus **risk**.

To prioritize the list of candidate projects, consider each project's value compared to its risk. High value/low risk projects rate higher.

Project Value vs. Risk
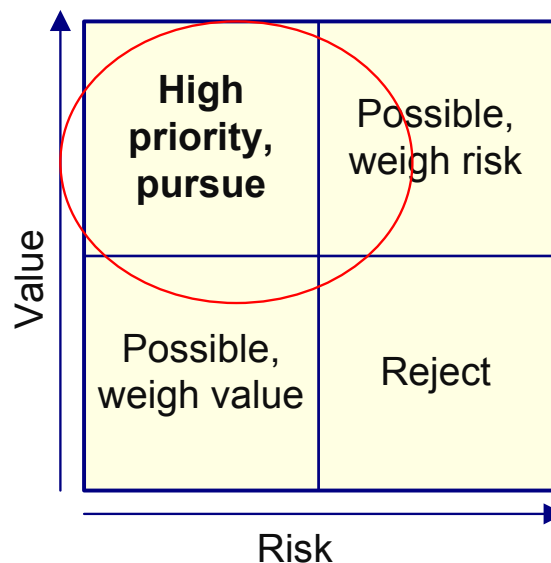
Consider the following criteria for determining project value:

- Does the project improve capability for subject identification, status, and history?
- Does the project provide statewide benefit, or does it only apply to certain regional or organizational areas?
- Does the project contribute to the goals and key issues in the strategic plan?

- Does the project address key gaps in the overall criminal justice business process?
- Are other projects dependent on this one for their success?

Consider the following criteria for determining project risk:

- Can the project meet its business and operational requirements and make use of existing systems, with little or no changes? Then, for example, the risk is low.
- What is the gap between current system functionality and the new business requirements? The larger the gap, the larger the project and with larger projects comes potentially higher risk.
- Is the project highly complex, either from a business or technical point of view?
- Is the cost high, or are funding sources difficult?
- Are the performance requirements difficult to achieve (i.e., fast response time, high transaction throughput, large data volumes, etc.)?
- Will the project conform to standards, either general industry direction or federal[24] or state standards?
- Are personnel with necessary skills readily available for this project?

— **Develop High-level Timeline**

Develop a high-level timeline of the selected projects, to track the overall program progress and dependencies between projects. The timeline should show only the high-level milestones of each project.

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[24] The Global Justice XML Data Model, for example: http://it.ojp.gov/topic.jsp?topic_id=43

Example:

	Year 1	Year 2
Project 1		
Project 2		
Project 3		
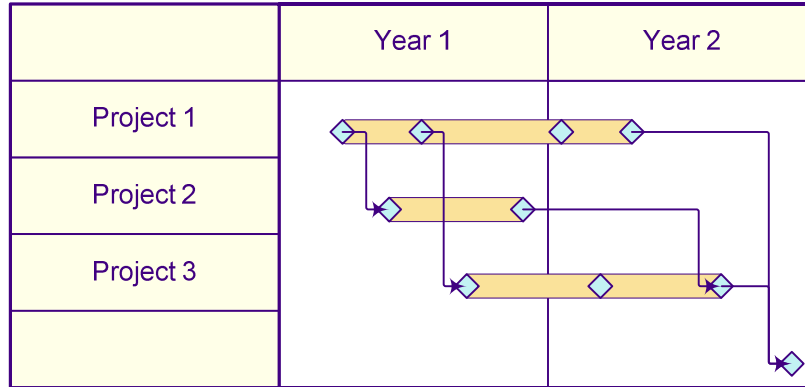
— **Develop Budget and Staffing Plan**

The budgeting process should be a component of the high-level planning for the overall program of multiple projects, as time/resource tradeoffs are considered. For instance, reducing time may optimize one project, but cause a dependency for another project to be violated. These tradeoffs need to be understood across the multiple projects involved.

The budgeting process includes several standard areas to consider:

Internal Costs – These are costs over which you have direct financial responsibility and control, including personnel costs and infrastructure costs, which already exist within agency budget frameworks. They are often overlooked because they are "in-kind" or existing, but will still need to be identified, mined and recognized as a future recurring cost.

External Costs – These are costs that most agencies associate with procurement and include all project elements that fall beyond the routine direct financial control of the agencies. These typically include:

- o Hardware – servers, workstations and network infrastructure such as hubs and routers
- o Software – all software that is necessary to affect an integration function. This could be adapters, messaging middleware, etc.
- o Services – this could include project management, installation, training, support and other consulting services

Phase Budgets – Projects are often divided into phases, and budgets should be defined accordingly.

Life-Cycle Cost – Early costs are often highly visible, but on-going maintenance costs may be a larger cost component than is realized. Budgeting should consider the entire life-cycle, including on-going maintenance.

Develop Policy and Standards - Business

— Standards Development Process

The state does have a role to play in setting key statewide standards that enable consistent sharing of information, especially in furthering statewide subject identification, status, and history. The business standards fall into four areas:

Business Practices – There are some key business practices that are fundamental to system-wide information sharing. Without standardization on these business practices, sharing will always be inhibited by incompatible implementations, especially from one county to the next. As an example, consider how protection orders are processed: to affect a real-time accurate and complete statewide domestic abuse restraining order repository the courts may have to take on a role that was previously decentralized to each sheriff. Court staff may be required to enter on a statewide database the terms and conditions of a restraining order, versus simply forwarding the paper order (typically prepared in draft by the parties) to the Sheriff's Office. The state has a key role to play here, by facilitating statewide discussion on how these business practices should be carried out, and then promulgating standard practices.

Business Rules – Information systems usually contain many rules governing the normal operation of the system. Most of these rules will apply at the local level. However, there are key business rules that define how the state information exchanges should occur. For example, if dispositions cannot be linked to arrests due to missing fingerprints, then the criminal history record is incomplete. To eliminate this problem, a new business rule may be implemented for prosecutors, courts and probation officers, in addition to sheriffs, to check and ensure the booking had occurred and if not, cause it to occur. These business rules may need to be incorporated in the underlying record or case management systems or else implemented in middleware business rules as part of the integration project. The JIEM Modeling Tool and process as described above can be used to map these business practices and rules.

Documents – Information exchanges depend on standard definitions of the structured documents that are used to transmit this information. For all state-level exchanges, the state should define the formats and protocols to be used.

Again, JIEM can be used to build the exchanges and then can map to the GJXDM.

Data Policy – When passing information from one entity to the next, data policy questions become very important. The state should provide guidance on questions such as: data ownership, security, retention, and privacy.

Performance Measures – Part of standards-setting is setting measurable performance goals. "What you count counts." Building in performance measure as part of the state standards vastly improves probability of success.[25]

— **Project Management Standards**

In coordinating various projects under the IIJIS umbrella, project management standards will improve the consistency and reduce risk across projects. They provide an additional benefit of effectively communicating to executives and other stakeholders the business objective, its progress and its current status and risks. Having this information in a timely manner helps stakeholders take early corrective action as warranted. Consider implementing standard expectations in the following areas.[26]

- **Charter** – Clearly states the business objectives of the project

- **Scope Statement** – Defines the scope of work for the project, as well as what is not in scope

- **Project Plan** – Defines the timeline, work tasks required, critical dependencies, and key completion milestones

- **Regular Status Reporting** – Keeps stakeholders informed of the project's progress and important issues

- **Budget** – Tracks the resources required for the budget, and the ongoing consumption of these resources

- **Risk Assessment and Mitigation** – Tracks project risks and the strategies for mitigation. This should be done regularly.

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[25] For more information on performance measures, see http://www.search.org/files/pdf/PerformanceMeasures.pdf.

[26] See "Roadmap for Integrated Justice: A Guide for Planning and Management," s*upra*, note 21.

Develop Policy and Standards - Technical

An enterprise architecture that builds upon existing standards offers the best opportunity to take advantage of the accumulated experience of others. However, optimizing the utilization of standards also means that the organization must recognize that standardization comes at a cost. To minimize these costs and maximize the benefits, standards should only be established at the point at which they become relevant.
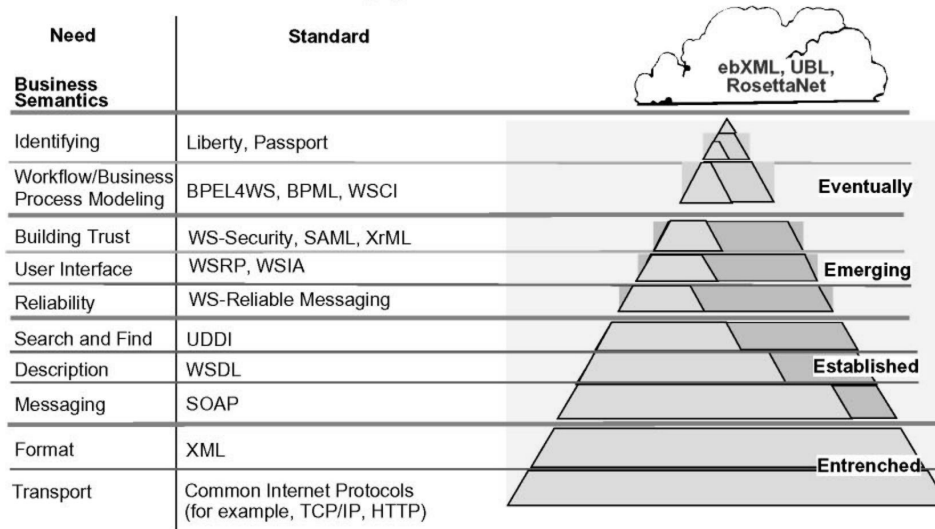
— Industry Standards

Industry standards tend to be established and utilized across domains. For example, XML is a standard that has been developed to assist in the transfer of information between systems. The World Wide Web Consortium (W3C), an association of almost 400 organizations, developed XML as a way to expedite the exchange of information over a network. The XML standard is agnostic in that it is not specific to any particular domain. Other industry standards include TCP/IP, HTML, SMTP, FTP, for data transmission. LDAP and SAML are industry standards for data access permissions. Another example of an industry standard is web services, based on XML semantics, which actually provides a set of standards that allow organizations to share information.

For example, a LEADS web service might allow access to the active warrant files or protection order. When an external system queries LEADS for active warrants based on name and date of birth, the LEADS web service might return matching Illinois arrest warrants and NCIC warrants in an XML document format. This would allow, for example, third party information technology systems such as PIMSNet or ICLEAR to automatically check the existence of warrants on an offender. In addition, there would be a published services on PIMSNet and ICLEAR that would allow each of those systems to view or share incident reports.
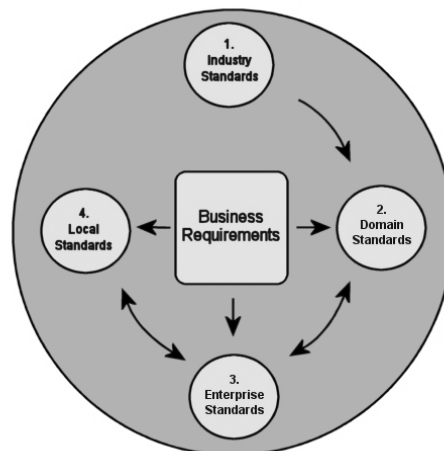
The following diagram depicts web services standards and their status.

Figure 1
Emerging Web Services Standards Stack

Need	Standard	
Business Semantics		ebXML, UBL, RosettaNet
Identifying	Liberty, Passport	
Workflow/Business Process Modeling	BPEL4WS, BPML, WSCI	Eventually
Building Trust	WS-Security, SAML, XrML	
User Interface	WSRP, WSIA	Emerging
Reliability	WS-Reliable Messaging	
Search and Find	UDDI	
Description	WSDL	Established
Messaging	SOAP	
Format	XML	Entrenched
Transport	Common Internet Protocols (for example, TCP/IP, HTTP)	

Source: Gartner Research (October 2003)

Vendor offerings for interoperability may be proprietary or contain proprietary components but these may be based on industry standards and offer value-added features.

— Domain Standards

Domain specific standards seek to extend the functionality provided by the industry standards by addressing the issues found within a particular domain. The Global Justice XML Data Model (GJXDM) is a good example of extending an industry standard (XML) and applying it to the needs of the justice community in order to create a *domain-specific standard* for the representation of data both as a data dictionary and a data model. The GJXDM seeks to define and organize data elements that are commonly used in justice for the purpose of enabling systems to exchange data. It includes standardized components for such entities as Person, Organization, and Case in addition to about 1,500 other components.

Often these domain specific standards will even specify the values permitted for particular data elements. For example, NCIC 2000, and the emerging NIBRS based N-Dex specifications are identifying elements values such as eye color and charge codes. When applied to a schema in XML these are known as enumerations. Currently, reference documents are being developed

to further define the elements and structure of a document based on the GJXDM, such as citations, and protection orders.

However standards need not only include data models. Functional standards have been developed by several justice associations to define specific processes. For example, the Corrections Technology Association has developed functional standards covering different business functions specific to the corrections domain. These standards include the steps required to accomplish specific business functions such as *Trust Accounting, Sentence and Time Calculation* and *Housing Bed Management.* Regardless of whether the specification describes data, process or technological standards, they should be used as a baseline for the definition of enterprise (e.g. state) and local standards.

— **Enterprise Standards**

An enterprise standard builds upon the efforts of the domain and industry standards. It seeks to further refine process, data and architectural standards to meet the specific business needs of the Illinois justice system. Below, we detail some of the areas in which domain specific standards exist and could assist in defining enterprise standards. In each case, a process standard either exists or is currently in the works.

Domain	Responsible Organization	Reference and Comments
Law Enforcement	Law Enforcement Information Technology Standards Council	http://www.leitsc.org/LEITSC/StrategicPlan1200902.pdf
Corrections	Corrections Technology Association	http://www.corrections.com/cta/
Courts	National Center for State Courts	http://www.ncsconline.org/D_Tech/Standards/Standards.htm Development of XML reference documents is being planned
Probation/Parole	American Probation and Parole Association	http://www.appa-net.org/publications%20and%20resources/publications_.htm

Additionally, these and other organizations are currently in the process of defining data standards in the form of reference documents. These reference documents, some of which include the judgment and sentence order, non-

traffic citation, and the incident report can provide a baseline definition that states may use when defining their own documents. Including additional information that is required within Illinois is encouraged—however *modifying* elements within GJXDM data types may result in a document definition that is non-conformant with national standards. The impact of this may include the inability to share documents across states. Of course, as these enterprise data and process standards are defined, consensus must be built to ensure that they are widely embraced and utilized by local jurisdictions. Part of this process is ensuring that standards are developed only at the level where they become relevant.

Over utilization of standards can prove to be as deleterious to project success as underutilization. Standards should be developed as opportunities for sharing data between organizations are identified. However, specific criteria should be established to help determine *the level* at which a standard should be produced. Creating a statewide specification to exchange data involved in the remand or release process only makes sense if state systems intend to receive this information and update their own databases. However, simply sharing data does not ensure the dependability of that data (as noted in the Business Rules section). Often, standardized processes must be established to ensure data integrity.

Ensuring the reliability of data in an integrated system often proves to be the most challenging effort. Certainly it will require a continual effort throughout the life of the system to achieve maximum performance. Some of these efforts will prove to be more effective then others. Nonetheless, providing a mechanism for the sharing of key identifiers and the development of cross-references between these identifiers should prove to be one of the most effective. The combination of key identifiers such as the State Identifier (SID)[27] and the Document Control Number (DCN) will provide a unique key that will permit accurate updates to disposition and other data. The process for when these keys are generated and transmitted will need to be specified by the state to ensure consistency across all counties.

To implement a statewide electronic arrest warrant system, a standardized arrest warrant schema[28] and a process for creating or updating these warrants should be established and enforced. Precedence exists for the enforcement of standards within Illinois. As jurisdictions are given direct access into LEADS, they are required to sign legal agreements pledging adherence to specified processes and procedures. Additionally, audits, sanctions and training

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[27] Assigned by the State Police when an offender is fingerprinted.

[28] An XML schema provides the blueprint for how the information in that document will be organized. The creation of these document schemas is the central effort behind efforts such as GJXDM.

procedures are in place to encourage compliance. Adherence to these standards is key; certainly no agency wishes to contemplate the consequences of someone taken into custody off a quashed arrest warrant.

The primary stakeholders of any data or process that is to be standardized should be responsible for defining much of the specification. Organizations such as the Illinois Association of Chiefs of Police, the Illinois Sheriff's Association, the Illinois State's Attorneys' Association, and the Illinois Association of Court Clerks provide the ultimate opportunity to gather business requirements while building consensus and ownership of the specification.

— **Local Standards**

The majority of standards will probably be established as the local level. They will allow agencies within the same county to share information among each other. As before, these standards should build upon and extend the functionality offered at the state (enterprise) and domain levels. These standards may become highly technical in nature, such as what operating system to use, the hardware, database and application software, or a document schema for the exchange of information in the workflow. Additionally, a process that will encourage feedback to improve existing enterprise standards should be identified and implemented.

There are two primary recommendations for developing enterprise and local interoperability standards. First, specifications should be developed at the level they are relevant to a specific business need. For example, local justice agencies may be reluctant to adopt a statewide standard for resolution of ordinance violations. Second, Illinois criminal justice associations should play a role in the adoption of enterprise and local standards. Involvement of these stakeholder groups will ensure that all interests are represented and that the standards that are developed are "owned" by the user community.

Resolve the ICLEAR/PIMSNet Issue

It was noted in the Observations and Analysis section that neither ICLEAR nor PIMSNet is an Illinois Integrated Justice Information System Initiative—ICLEAR is identified as a "Related Initiative,"[29] and PIMSNet is not mentioned at all. It is interesting that there is conflict concerning these two projects, which are not identified as IIJIS initiatives. It seems clear that this conflict is premature at best and probably unnecessary. Until the detail planning is completed, including the clarification of state and local roles, there will continue to be conflict. Without a

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[29] 2004 Annual Report, p.18-19, *supra*, note 16.

clear business case for integration, traditional organizational issues emerge causing confusion and lack of focus, often stalling the project. Integration is a business-based activity. The justice system with its adversarial underpinnings, constitutional and elective authorities, and disparate funding bodies often does not act as an enterprise. Yet each agency is fundamentally dependant on each other when it comes to information to make decisions and conduct business. The enterprise view comes from attempting to solve business problems, to improve public safety and hold offenders accountable. **Integration is a business-based activity enabled by technology.** The detail planning process will develop statewide information exchange requirements and use case scenarios and will map systems against these, identifying fit or gaps. It will clarify the role of both ICLEAR and PIMSNet, if any, in the statewide integration project. Until then both projects should peacefully coexist, and the issue should be put "on hold."

As described in the Complete Detail Planning – Business Planning section of this report, a functional comparison should be performed to identify the business case of each system. Duplicate functionalities and functional gaps should be identified and resolved. It is also recommended that end-users (i.e., local agencies) be engaged to assess the functional requirements and user preferences of each system.

Resolve the Portal Issue

The portal issue is a variation on the ICLEAR/PIMSNet issue. In this case it is a technology variation. Again, without the detail planning and business focus a technology solution emerges, but a technology solution that does not address a specific set of business requirements. Because the business case for the portal has not been developed, there is no consensus as to the next step for the portal initiative. It is recommended that the IIJIS Board use the gap analysis summary found in the Appendix of the Strategic Plan as a guideline to develop a business case for the portal initiative. The business case should identify the functional and operational roles of the proposed portal solution. Specific issues to be addressed in the business case should include:

- Who will use the Portal Solution in addition to Law Enforcement? Will the Courts, Probation, and Jails use it? If yes, what are the specific functional needs of each group of users?

- What business functions will a portal solution address that are not currently served by LEADS?

- Is the portal an index or pointer system to data in operational systems?

- Does it replicate all data and business functionality of the underlying systems?

- Is the data systematically organized and summarized (for example, the biometric ID) or is it an agglomeration?

- Does it provide a single sign-on access to underlying operational systems?

None of these questions can be answered until the detail planning is completed so that business requirements, data exchange requirements and use case scenarios can be mapped to current systems with a resulting fit or gap assessment. The portal can be viewed as the "query" in the push, pull, publish, subscribe, and query solutions to business problems.[30] But what problem and why query as a solution?

Develop a Project Management Office

A project or program management office (PMO) is an important and somewhat overlooked component of IIJIS. As has been noted elsewhere, one of the aspects of a successful integrated justice (IJ) project is the detail planning of what, why, where, how, and when. Although this has been accomplished very well at a higher and more abstract level, it needs to be drilled down or specified to a level where it can be designed, budgeted, tracked, and implemented. These are some of the tasks of a PMO. The PMO's responsibilities can make or break any IT project but are even more important in the IJ world as they tend to be more sophisticated and involved from a political, organization, and technological level. As is noted in the graphics on page 22 and 23, the PMO is intertwined with higher level leadership structures and players as well as lower level implementation resources. This places the PMO at the IJ crossroads and requires the translation of high level directives to the project team to be implemented, and to the appropriate committee of the Implementation Board or the Executive Committee for interpretation and communication of implementation issues to be reviewed and decided upon. This is not an easy task and is best accomplished by experienced individuals. In addition, the PMO holds a critical position interfacing to the vendor(s) and the management of those resources as well. The PMO also functions as an outreach of sorts as it is the day-to-day voice of the project to many enterprise participants both pre- and post-implementation.

To improve coordination of statewide integration projects, the state should establish a PMO. The PMO is concerned with the overall portfolio of integration projects, and aligning them with the strategic goals of the state.

The PMO should shepherd the organization through the detail planning steps noted above in "Complete Detail Planning". The resulting plan is a high-level plan for a portfolio of projects that meet the state's integration strategy.

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[30] David J. Roberts, *Integration in the Context of Justice Information Systems: A Common Understanding,* SEARCH. Revised April 2004. http://www.search.org/files/pdf/Integration.pdf

Finally, the PMO needs to monitor the progress of these projects over time, and facilitate course corrections as needed.

Typical PMO responsibilities include:[31]

- Project portfolio planning and monitoring

- Performance and risk monitoring – projects achieving their goals

- Financial monitoring – tracking projects conformance to approved budgets and financial guidelines

- Technology guidance – ensuring appropriate standards are enacted and followed

- Communication – reporting as necessary to stakeholders

Additionally, the PMO may do vendor management, maintain work breakdown structures and detail project plans including identifying resources and dependencies.

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[31] Project Management Institute, *supra*, note 19.

VI. Conclusion

The TA Team recognizes the great potential value of the IIJIS Strategic Plan and the strategies it sets forth to accomplish the goal of integrating the Illinois justice information enterprise. As the IIJIS Board moves forward with implementing the strategic plan, it is faced with the daunting task of translating the strategic vision into a tactical plan that identifies specific projects defined by business, technical, and functional requirements.

As observed during the site visit, the IIJIS Board finds itself in state of "paralysis by analysis." As described in this report, the TA Team has identified several recommended actions that can be undertaken to move the IIJIS project into the next phase and facilitate the process of implementing the vision articulated in the Strategic Plan. The recommendations can be summarized into five general areas: assess and fine-tune governance; complete detail planning; define system roles; develop standards and policies; and create a PMO.

By assessing and fine-tuning the governance, the IIJIS Board will: 1) facilitate the decision making process along with specific roles and responsibilities; 2) promote a process of focusing on and improving business operations; and 3) adjust the membership to reflect all key stakeholders.

With complete detail planning, the IIJIS Board will develop business and technical plans that will define the state and local roles and identify alternative strategies for accomplishing a specific business outcome. The planning will allow the IIJIS Board to define, prioritize and select implementation projects, develop a high-level timeline, and develop budget and staffing strategies.

By defining system roles, conflicts concerning the position of various state systems will be addressed and resolved. Specifically, the role of both ICLEAR and PIMSNet, if any, will be defined and specific projects that may or may not be included in a portal solution will be identified.

Lastly, by developing a PMO along with standards and policy guidelines, the IIJIS Board will define the state's role in setting key statewide standards that enable consistent sharing of information. The IIJIS Board will also be providing local agencies with guidelines and best practices information to promote a consistent environment. Standards development will focus on business standards, technical standards, and project management standards.

SEARCH appreciates the opportunity to have assisted on this project. We are available for additional assistance and facilitation on any of the recommendations above.

Appendix A:
Developing the Business Case

The business case for a project should justify the investment to address a particular business issue. Consider addressing the following questions:

- Current situation – What is the current business process?
- Issue – How does the current process not meet the business need? What problems or issues are there with the current business process? What are the gaps that must be fixed to improve the situation?
- Impact if not implemented – What will the impact/consequences be if this issue is not resolved (e.g., lower subject identification rate, inability to enforce statewide restraining orders or no contact orders, etc.)?
- Alternatives – Describe any alternatives that have been considered.
- Solution – What is the proposed conceptual solution?
- Benefits – How would the proposed solution improve the business process, quantitatively and qualitatively? How does it improve the overriding objectives of statewide subject history, status, and identity? Is the benefit impact statewide, cross-jurisdictional, and across organizations?
- Dependencies – Does it depend on other areas being fixed first? Do other areas depend on this solution?

Appendix B:
Analysis of Integration Strategies and Technical Standards

It has been said many times that technology is not a barrier to successfully implementing a sound and well thought out integrated justice strategy. Although that may be true, it is also true that the selection of a technology or architecture consistent with the ultimate strategic vision is key to ultimately achieving the programs goals. Technology can be defined as a tool to achieve a certain level of functionality or goal. An architecture can best be described as an overarching design incorporating specific function-based technologies or components whose sum is greater than that of the individual components. There are a variety of technologies and architectural models that can be implemented and that the IIJIS Board should review:

- **Consolidated, Centralized, or Monolithic** – Similar to the e-Justice application that McLean County maintains. Not an architecture, but an application-based method for consolidating information from a variety of applications which are essentially built into the system. This is probably not very functional for the needs of a state architecture as it would quickly become unwieldy and because it is very application-centric and was not designed to be an integration architecture as will be described below. Other systems similar to this exist such as multi agency, multijurisdictional CAD and case or record management systems. They all tend to be inflexible and not very dynamic in providing connectivity for other enterprise systems.
- **Hub and Spoke** – This is probably the most applicable for a state level coordinated integration program and one the IIJIS Board may ultimately decide to pursue. With a hub and spoke, enterprise systems communicate with each other via a hub, which can contain a variety of services and provide the functionality described below. Each hub can then provide for local or regional integration which can ultimately provide consolidated information on a state level and also ultimately be the gateway for information to federal programs like N-Dex. In the hub and spoke architecture linking multiple hubs together can then provide a flow of information between enterprises that can provide access to information across vast areas and information types.

The components that are generally thought to be required for a fully capable integrated justice enterprise are as follows:

- **Middleware Hub or Integration Broker** – Functions as the traffic cop for

information from one system to any other within the enterprise. The hub or broker needs to be able to perform a variety of functions including understanding minimally what information each system maintains, the events within which the information will be provided. They may also provide an integrated data exchange or exchange process automator.

- **Process Exchange Manager or Automator** – This service provides the capability to define and manage the execution of information exchanges between enterprise systems. The dimensions of exchanges include the following:
    - o Data Source – The system that contains the data or information to be shared or made accessible. For example a law enforcement RMS might be a data source.
    - o Event Type – The name or label assigned to the exchange. For example an 'Arrest' would be an event type.
    - o Event Trigger – The event or transaction initiator.
        - ▪ This could be the existence of a data variable with in a certain record type in the data source. The insertion of an 'arrest status' variable in an arrest record in an RMS.
        - ▪ It could also be a state change for a data variable. The change in an 'arrest status' variable from 'initiated' to 'closed' in an arrest record in an RMS.
        - ▪ Other triggers can also be defined.
    - o Data Set – The data elements defined individually or as simple and complex objects that are related to each other as parents and children within a hierarchy. Data sets can be defined or labeled using a consistent standard or model such as XML or the GJXDM. This enables the sharing of information with less technology and transformations as long as other sharing systems also recognize and utilize the same standard or model.
    - o Data Target – The system or systems that are the destination of the information.
- **Services:**
    - o Security – Provides for restricting access to enterprise information to only those systems or users who have been defined by the enterprise to be valid. Includes encrypting messages, defining and enforcing the existence of a group of trusted systems and users (users can exist only within the enterprise or exist within enterprise systems and be accessed via the enterprise as in a single sign-on configuration), authenticating and authorizing trusted users to perform enterprise-related functions, and the assignment of security levels to data records.
    - o Value Translation – Provides the capability to translate like values across disparate systems. This is contrasted with a standard messaging content and data type definition such as XML and the Global Justice XML Data Model (GJXDM), which identifies a model for the definitions of tags of like values across disparate systems, but not the content. Without the capability to translate varied implementations of content, effective messaging is not easily accomplished.

- o Identification – It is clear, as has been identified within this document, that biometric identification is a critical component of the future of IIJIS. While this is a necessary component, today and in the foreseeable future not every agency and source of data may have accurate biometric labeling of individuals. It may also be reality that historical records don't all have biometrics and that individuals of 'lesser importance' such as witnesses or victims may not always be identified via biometrics. It is for these reasons and more that the capability to identify objects (people, property, and cases) that are disparately identified across the enterprise be enabled. An identification service enables the variables that each agency uses to identify an object to be used across systems but with differing levels of confidence in their accuracy. This would enable each agency to use driver's license number (DLN), social security number (SSN), pedigree (height, weight, eye and hair color, and scars, marks and tattoos) but to establish different confidence levels. Confidence levels are normally assigned based on experience with information provided during the identification process or based on the accuracy of the process whereby data entry personnel transcribe the information to the database. In either instance, these different confidence levels are then used to establish a sum and compared against a confidence threshold that the enterprise has established. Objects that measure lower than the confidence threshold can be handled differently than those that equal or exceed the confidence level. A practical example would be that the enterprise establishes a 90% confidence threshold for a person, meaning that if the variables submitted along with each person record from a submitting system equal or exceed that percentage, then they are considered to be valid as defined. As each agency submits information on individuals, the variables that are included are evaluated in light of each agency's differing confidence levels. If the threshold is met or exceeded, then the individual would be considered a positive ID and automatically processed. If lower than the threshold, then the record could be forwarded to an individual's queue to be manually identified. This can save many hours of staffing time in a very critical and frequent justice process.
  - o Location Standardization – This service enables the enterprise to utilize disparate geographic information from a variety of sources or geofiles in order that it is used accurately on a single graphic or mapping display. This capability is important when multiple disparate computer aided dispatch (CAD) or records management systems (RMS') are linked and incident, arrest, field interview or other location-based records are needed to be mapped or graphically represented on a map.
- **Central Data Repository (CDR)** – A central data repository is an important element of an enterprise as it can perform a variety of fundamental functions including:
  - o Enterprise Indices – Maintains an index or pointer system for the key objects or data maintained by enterprise systems. The index can be as

'thin' or 'thick' as desired meaning that it can contain as much detail regarding the objects as necessary to provide the required functionality. Typically a person-based or master name index (MNI) will be required. The MNI provides at a minimum provides a cross-reference between the person based information in each enterprise system and an enterprise reference for those objects. This would provide for an enterprise master name index value for a person and then a cross-reference of the specific name index value that each systems maintains. This enables information related to an individual such as defendant to be accurately accessed from each participating enterprise system when performing queries or exchanging data directly between systems. The access of data in a more real-time manner from each system provides a 'virtual CDR' that enables each agency to maintain control of its data while also providing access to authorized enterprise users.

o Data Aggregation – Another function of the CDR can be to collect information from participating systems enabling centralized access to information. The collection of this data provides a more direct pathway for queries but also requires a synchronicity process, which maintains consistency from the source data to the aggregated data store.

These are some of the major components and choices available to be utilized within a justice enterprise. The correct selection of an architecture and the options within it are critical to achieving the goals of Authority if the end goal is to decide on a standard architecture for the localities within the state or to establish a statewide architecture that localities can join.

Appendix C:
TA Provider Responsibility Chart[32]

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[32] Consult the appropriate provider for clarification or additional information on a particular topic.