Integration in the Context of Justice Information Systems: A Common Understanding

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Introduction

The integration of justice information systems, and information sharing generally, are not entirely new ideas. Agencies and jurisdictions throughout the nation have long recognized the importance of integrating information systems to share critical data, documents, images and transactions at key points in the justice process where decisions must be made. Many State and local jurisdictions are now actively developing plans and programs to substantially integrate their justice information systems and enable broad-scale information sharing.¹

Integrated systems improve the quality of information, and thereby the quality of decisions, by eliminating error-prone redundant data entry. In addition, by sharing data between systems, integration typically improves the timely access to information, a critical factor at many justice decision points (for example, setting bail). Moreover, integration enables the sharing of crucial information without regard to time or space; multiple users can access the same records simultaneously from remote locations around the clock.

Integration also substantially improves the consistency and reliability of information, and enables immediate access by key decisionmakers. Errors in justice information can be greatly reduced by eliminating redundant data entry, which not only results in lower labor costs, but also significantly improves the quality of justice — an intangible that too often is measured by the size of civil suits resulting from improper confinement, improper release or other errors traceable to poor data quality or untimely access to critical information.

Nearly every State throughout the nation is actively planning or implementing integrated justice information systems.² In addition, the U.S. Department of Justice has recognized the importance of integrated information systems strategic planning and coordination, and is sponsoring two important national projects. The Global Justice Information Network and the Office of Justice Programs’ Strategic Funding Initiative are both designed to examine justice information systems integration and how the U.S. Department of Justice can best assist State and local jurisdictions in their move toward integration.³

In addition, near the end of 1998, the Congress passed, and the President signed, historic legislation that vastly improves the business of justice and enhances public safety. Beginning Fiscal Year 1999, Public Law 105-251, which includes the Crime Identification Technology Act (CITA), authorized $250 million per year for each of the next 5 years ($1.25 billion total) for State grants to promote the integration of justice system information and identification technology.⁴ CITA included the first sizable grant program to support justice information systems integration, clearly addressing one of integration’s main obstacles — the lack of funding.
Given this environment, this *Integration in the Context of Justice Information Systems* report is designed to provide a common framework and vernacular for justice systems integration to assist practitioners, developers and other stakeholders involved in planning efforts.

### Integration of Justice Information

Integrated justice information sharing generally refers to *the ability to share critical information at key decision points throughout the justice enterprise*. It should be noted that integration also includes the sharing of information with traditionally non-justice agencies (for example, other governmental agencies, health and human services organizations, treatment service providers, schools and educational institutions, licensing authorities, etc.) and with the public, which is increasingly demanding greater and more varied access to an expanding array of government information and services. Moreover, this information sharing and access extends across agencies and branches of government at the local level (that is, *horizontal integration*), as well as interested parties in other local, State and Federal jurisdictions (that is, *vertical integration*), and may well include civil information, such as non-support orders, civil orders of protection, etc.

Building integrated justice information systems does not mean that all information between agencies is shared, without regard to the event, the agencies involved or the sensitivity of the information available. Rather, agencies need to share critical information at key decision points throughout the justice process. There is explicit recognition that this sharing of information can be accomplished by any of a variety of technical solutions, or a combination of technical solutions, including data warehouses, consolidated information systems, middleware applications, standards-based document sharing, etc. Integrated justice does not presume any particular technological solution or architectural model.⁵

Moreover, the integration of justice information is properly viewed as a broad and significant *process* that is dynamic and multifaceted in nature, and part of the ongoing evolution in justice business practices, not as a simple project to share information with discrete beginning and termination points. Building integration and information-sharing capabilities in justice often contemplates fundamental changes in business practices across agencies and jurisdictions, and between branches of government. As a consequence, integration typically raises important legal, constitutional and policy issues that must be addressed. Moreover, integration and sharing of information between justice agencies, with other governmental agencies, and with the general public raises new and important privacy and confidentiality issues that must also be addressed.⁶
Integration also affords an important opportunity to **reengineer operations** in substantive respects. Mapping the information exchanges among justice agencies, and between justice and non-justice agencies and other users, often identifies significant duplication in data entry, redundant processing and circuitous business processes that are evidence of the piecemeal automation practices endemic in most jurisdictions. Careful strategic planning and attention to detail in design sessions can illuminate fundamental flaws in information exchange that can be corrected in integrated systems development. Too often agencies have simply “paved the cow path,” rather than critically examining the dynamics of information exchange and building automation solutions that incorporate the reengineering of business processes.

These factors demonstrate the inherent complexity of building information-sharing capabilities in the justice enterprise, and underscore the importance of focusing on the ongoing process of information exchange.

**Expanding Demand for Information Sharing**

It is important to recognize that integrated justice information sharing is designed not only to meet the operational needs of participating justice agencies, but also to address the increasingly expansive information demands of society. The need to electronically share accurate and complete information in a timely and secure manner has been triggered by a host of State and Federal legislative directives enacted in recent years. These mandates represent significant new expectations relating to reporting provisions and information-sharing requirements, which have served as national catalysts to integrated systems development at the State and local levels.

These programs are designed to improve public safety and the well-being of our citizens in such ways as:

- restricting the sales of firearms to persons without criminal records, a history of mental illness or other prohibiting factors;
- restricting and/or monitoring licensing of elder-care, child-care and health-care service providers and other occupations with special access to disadvantaged or vulnerable persons;
- dealing with significant financial responsibilities;
- providing community notification of the location or release of sexually violent predators;
- deporting illegal aliens who have been convicted of crimes;
- locating missing children;
- providing protection from domestic violence and stalking;
- ensuring the safety of abused and neglected children.
• providing for the support of children and denial of benefits to some law violators and the incarcerated;\textsuperscript{16}

• conducting national security background checks for employees of specified agencies, such as the Central Intelligence Agency and the Department of Defense;\textsuperscript{17}

• establishing eligibility for enlistment in the armed forces and participation in programs that require a determination of trustworthiness;\textsuperscript{18}

• providing identification and clearance of partners, directors, officers and employees of National Securities Exchange members, brokers, dealers, registered transfer agents and registered clearing agencies;\textsuperscript{19}

• conducting criminal history background checks of individuals granted unescorted access to nuclear power facilities or access to Safeguards Information by power reactor licensees;\textsuperscript{20}

• a plethora of State occupational licensing laws for the medical profession, attorneys, private investigators and others.

These forces, some effectively external to the justice system, nevertheless profoundly influence the design and development of information systems and the plans for information sharing/integration. The systems that are integrated will improve the capacity to meet the reporting requirements arising from implementing Federal legislation, as well as State legislation and policies. Integrated systems, therefore, enhance the ability of the decisionmaker by enabling more efficient access to justice information. As a result, the goal of protecting the public is more effectively achieved.

Moreover, these legislative requirements frequently spawn funding programs to support State and local jurisdictions in the development of systems, or the resources for these efforts. Several of the reporting requirements and other requirements imposed on State criminal justice agencies by the Congress are tied to Federal funding; that is, these obligations are, in some cases, established as conditions of Federal funding. In other cases, failure to implement particular requirements result in a loss of existing grant entitlements. For example, the National Criminal History Improvement Program (NCHIP) implements grant provisions in the \textit{Brady Act}, the \textit{National Child Protection Act}, the \textit{1994 Violent Crime Control Act}, the \textit{Wetterling} and related Acts, and the \textit{Crime Identification Technology Act}, which pertain to the improvement of criminal history record systems. Primarily, the program is aimed at increasing the accuracy and completeness of State criminal records and the extent to which these records are maintained in automated systems, and appropriately flagged, so as to be immediately available to the National Instant Criminal Background Check System (NICS).
Another example is the Five Percent Set-Aside Program, which is a part of the Edward Byrne Memorial State and Local Law Enforcement Assistance Formula Grant funds allocated to States. This program requires that each State receiving Byrne funds use at least five percent of its total award for the improvement of criminal justice records. Included in this program are the requirements to establish a criminal justice records improvement task force, conduct an assessment of the completeness and accuracy of criminal history records within the State, identify the reasons that record quality is low, and develop a records improvement plan with mandated periodic updates. On the other hand, States that failed to meet applicable deadlines imposed by the Wetterling and related Acts for registration of specific classes of sex offenders, establishment of methods for community notification, and participation in the National Sex Offender Registry maintained by the Federal Bureau of Investigation, are subject to a mandatory 10 percent reduction of Byrne funding.

The specific requirements, whether they be by direct order of the Congress or by being made conditions of grant funds, are all designed to promote public safety. To do this, local justice entities — such as prosecution, trial courts, corrections and parole, where the work of criminal justice is largely done — must be able to promptly and accurately transfer information to the State criminal history repositories and other agencies in need of essentially “real-time” data.

These programs not only represent demands placed on justice and governmental information systems, and external pressures to integrate and enable information sharing, but they also often provide needed Federal support for State and local development and implementation. Nevertheless, to be successful, Federal funding by itself is never sufficient, and State and local jurisdictions must also support the initiatives.

**Interagency Information Exchange**

Defining integrated justice information sharing as “the ability to share critical information at key decision points throughout the justice enterprise” properly focuses attention on information sharing as the principal objective. Justice agencies have a series of information exchanges — or transactions — at these decision points.

At booking, for example, the arresting agency typically transmits certain information regarding the arrestee to the State criminal history records repository (for example, name, age, sex, race, driver’s license number, electronic image of the arrestee’s fingerprints, etc.) to record the arrest transaction in the instant case, but also to verify the arrested person’s identity and determine whether the person has a criminal history record in the resident State, or in other jurisdictions around the nation. In addition, this transaction may also query other State and
national information systems to determine whether there are any outstanding warrants, detainers or other holds on the arrestee. Moreover, this transaction may also trigger automatic “notification” of the arrest to the State or county Department of Health and Human Services (HHS), for example, if the arrestee is a foster parent on whom HHS has “subscribed” for “notification” of arrests for disqualifying offenses, as well as similar “notifications” to the Departments of Welfare, Motor Vehicles, Education, etc.

For these transactions, the local arresting agency does not need to share all information regarding the arrestee or the event leading to the arrest, but only that information necessary for the discrete transactions “check for outstanding warrants” and “verify identity and report arrest transaction to the criminal history repository.” These same transactions are completed by law enforcement agencies throughout the nation whenever they make an arrest.

These transactions, and many other routine information exchanges and queries, might be characterized as conversations, that is, discrete exchanges of information between two or more agencies. These conversations occur at regular events (for example, at arrest, charging, initial appearance, adjudication, sentencing, licensing, registration, etc.), and it is believed that the transactions are remarkably consistent in jurisdictions throughout the nation.

Some of the conversations are very basic: “Give me information on anyone with a like name and date of birth,” followed by, “Here is the information you requested on all the subjects I have with similar names and dates of birth.” In this conversation, the agency requested information from another agency, which returned nonspecific information; the sending agency did not need to know how the requesting agency would use the information or what further actions the requesting agency might need to take. Other conversations affect the recipient system more directly: “Here is a disposition report and sentence to append to a specific person’s criminal history record.” This conversation requires the recipient agency to know exactly to whose record the new information should be appended in order to store it in its database. It might also trigger some form of notification to other interested agencies. Some conversations can be complex: “Based on the enclosed set of charges, issue a warrant for the subject’s arrest,” followed by, “I will set up a case and issue a warrant, while notifying the sheriff whose jurisdiction this falls under, and at the same time indicating the geographic radius for extradition based on the seriousness of the offense.” In this instance, subsequent conversations might yield entry of the warrant in local, State and national warrant systems.

The analogy to a “conversation” is particularly appropriate, given the nature of the information exchanges contemplated in integrated justice. The exchange is complex and evolving: one agency may initiate an exchange, which will trigger a response by a second (recipi-
ent) agency; this response, in turn, may trigger additional value-added exchanges by the (original) initiating agency, which can then incorporate information — such as a State identification number (SID) — generated in the first exchange.

**Content** is a fundamental component of the conversation or exchange. The substance of the exchange is the information itself. Exchanges, to be effective, must convey appropriate information (that is, information that is relevant and responsive) in sufficient detail to meet the needs of the initiating/recipient agency.

In addition to content, however, it is also important to recognize that these exchanges, like conversations, must have both a **context** and a **protocol**. Parties to a conversation must have some agreement, formal or implicit, that their communication is going to focus on a topic of relevance (or at least interest) to each party, and there may be specific objectives for the conversation, for example, a query of a statewide warrant system to determine whether an arrestee has an outstanding warrant, or sending disposition and sentencing data to the criminal history records repository to update an offender’s criminal history record. In addition to context, there must also be agreement regarding the protocol for the conversation, which may include such elements as the language that will be used, the roles of the participants, and how misunderstandings will be resolved. Automated exchange of charging information between the local prosecutor and the local court must be in terms that are understandable and interpretable by both. Local jails, for example, may be required to submit booking records, fingerprint images and mugshots to the State criminal history records repository in mutually agreed-upon formats for the repository to properly interpret the information and append it to the appropriate record. Protocol, in the context of justice information sharing, largely refers to **standards** that enable sharing of critical information.

Many of the primary events that trigger conversations between agencies in the criminal justice process were generally identified in the excellent schematic of the criminal justice process created in 1967 for the President’s Commission on Law Enforcement and the Administration of Justice,\(^22\) recently updated by the Bureau of Justice Statistics, U.S. Department of Justice.\(^23\) From this historical research, and from the ongoing work of several jurisdictions in integrated systems implementation, we know many of the key events that trigger the conversations, the agencies involved, and the general nature and content of information exchanged in the conversations. It is important to note, however, that this schematic represents the general life cycle of criminal justice case processing, not the systematic processing of information throughout the entirety of the justice enterprise.

Documenting the key information exchange points, and the context and content of the conversations that occur at each of these events — that is, creating an accurate model of justice information system
processing, which includes identifying common events that trigger conversations, the agencies involved, the nature and content of these conversations, and the exchange conditions affecting the transactions — will greatly facilitate integrated systems planning and design. The Bureau of Justice Assistance, Office of Justice Programs, U.S. Department of Justice, has funded a project by SEARCH to complete this important research and in doing so, to lay the foundation for integrated systems planning and implementation at the local, regional, State and Federal levels.

Functional Components of Integration

*Integrated justice information sharing* generally refers to the ability to access and share critical information at key decision points throughout the justice enterprise. The functions we normally consider in integration efforts between agencies include the ability to:

1. Automatically **query** local, regional, statewide and national databases to assess the criminal justice status of a person, such as determining whether a person is currently wanted by another jurisdiction, has charges pending in another jurisdiction, is currently under some form of correctional supervision, or has a criminal history at the local, State or national level.

2. Automatically **push** information to another agency, based on actions taken within the originating agency (for example, reporting arrest information — together with supporting fingerprints and mugshot — to the State and national criminal history repositories based on new information in the local database; when a law enforcement agency makes an arrest and enters this information in its records management system, it should “push” information to the prosecuting attorney’s office for use in the prosecutor case intake process).

3. Automatically **pull** information from other systems for incorporation into the recipient agency system (for example, populating a correctional information system with offender information captured in the presentence investigation, together with court sentencing information).

4. **Publish** information regarding people, cases, events and agency actions (for example, both electronic and paper publishing of information regarding scheduled court events, crime mapping, availability of community resources, criminal history records, sex offender registries, etc.).

5. **Subscription/Notification** of key transactions and events regarding subjects, events and cases (for example, probation agencies and individual probation officers should be able to
formally subscribe to a notification service that will automatically notify them whenever one of their clients is arrested or otherwise involved in the justice system, as should prosecutors with cases pending against a defendant, judges who have suspended sentencing or otherwise suspended proceedings regarding a defendant, and social services agencies and others interested in particular transactions throughout the justice enterprise).

Justice agencies throughout the nation already share considerable information. It is important to recognize that city, county, regional, statewide and national systems currently exist to facilitate access to and sharing of key information among many of the actors in the justice enterprise. In addition, some of the information exchange contemplated in these five basic functions is currently accomplished with existing technology or is being developed in new systems, but much is also still done manually through the ceaseless efforts of local practitioners. Integration efforts are designed to automate many of these operations, reengineer systems and processes, and achieve new capabilities with greater efficiency and effectiveness.

**Foundation Principles of Integration**

Integration is designed to address the operational needs of justice agencies, as well as a host of outcome-based societal objectives. In spite of these varying objectives, there are several fundamental principles that guide the development of integrated justice information systems.26

1. Information is captured at the originating point, rather than reconstructed later.
2. Information is captured once and reused, rather than re-captured when needed again.
3. Integrated systems fulfilling these functions are comprised of, or derived from, the operational systems of the participating agencies; they are not separate from the systems supporting the agencies.
4. Justice organizations retain the right to design, operate and maintain systems to meet their own operational requirements. However, as with any network capability, participants must meet agreed-upon data, communication and security requirements and standards in order to participate.
5. Whenever appropriate, standards will be defined, with user input, in terms of performance requirements and functional capabilities, rather than hardware and software brand names.
6. Security and privacy are priorities in the development of integrated justice capabilities, and in the determination of standards.
Integration builds on current infrastructure and incorporates capabilities and functionality of existing information systems, where possible.

Because of the singular consequences of decisionmaking throughout the justice enterprise, establishing and confirming the positive identity of the record subject is crucial.

These guiding principles are fundamental to integrated systems development in justice, and clearly apply to information technology (IT) systems development generally as well.

**Defining Governmental Responsibilities Regarding Integration**

The definition of integration implies different roles and responsibilities for agencies at the local, State and Federal levels.

*Local agencies and jurisdictions have primary responsibility to:*

- Support and maintain *information systems* within their own, individual agencies.
- Establish and enable the *sharing* of the day-to-day information that serves as the operational currency of locally integrated systems (for example, sharing of general case information, court calendar and scheduling information, etc.).
- Participate in statewide integrated *systems planning* efforts.
- Implement *standards* jointly developed with the State in support of statewide systems and integrated justice.
- Accept and implement an *interface with State systems* or other solutions that support statewide integrated justice initiatives.

*States have primary responsibility to:*

- Build *statewide information repositories/systems* that support the operational information needs of local and State users (for example, criminal history records, statewide warrants database, correctional information systems), and including non-justice systems and users, such as social services, education and the general public, etc.
- Develop and support *standards* consistent with national standards to enable sharing of information between local jurisdictions, to State systems and other States, as well as with national systems.
- Operate as a *gateway* to relevant national/Federal information repositories/systems (for example, Integrated Automated Fingerprint Identification System (IAFIS), National Crime...
Information Center (NCIC), National Incident-Based Reporting System (NIBRS), etc.)

— Develop the *infrastructure* that will support and enable integration of local agencies statewide (that is, to share data within their local environment, as well as with the State and national systems). Infrastructure development in this sense means that the State has responsibility for technical systems (for example, statewide fiber optic lines that permit sharing of information, law enforcement teletype systems, radio systems, and programs that will support general levels of automation within justice agencies), as well as the development of open system standards that will lay the foundation for integrated systems planning and implementation at the State and local levels.

— Mandate *statewide coverage* for critical systems, functions and capabilities.

— Enable *sharing* of information statewide.

— Enable local agencies and jurisdictions to *buy IT resources and solutions* off State contracts.

— Provide *leadership* for statewide IT planning and development and, in the context of this effort, particularly focusing on integrated justice.

— Provide *funding* for statewide IT and integrated justice initiatives, and in support of local jurisdictions and agencies to enable their active participation.

*The Federal government has responsibilities, similar to those of the State governments, to:*

— Develop, maintain and support *national and Federal systems*.

— Ensure *integration* of national systems.

— Serve as the *gateway* to international systems.

— Create and maintain the national and Federal *infrastructure* necessary to support integration of Federal, State and local systems:
  - Nationwide information repositories/systems.
  - Technical infrastructure that enables the automated sharing of information between agencies and jurisdictions.
  - Data and information standards to enable sharing of information between local jurisdictions, to State systems and to national systems.
  - Leadership for IT planning and development and, in the context of this effort, particularly focusing on integrated justice.
• Funding for statewide IT and integrated justice initiatives, and in support of local jurisdictions and agencies to enable their active participation.

Recognizing these fundamental differences in roles and responsibilities is critical in planning and implementing integrated justice information sharing.

Conclusion

This report was designed to define the broad landscape and universal principles generally associated with integrated justice information sharing. Definitions, functions, principles and responsibilities were presented in an effort to establish a common framework and vernacular for integrated justice.

Just as the needs and operational imperatives of government continuously evolve, so too will fundamental elements of integrated justice information sharing. Indeed, the way we do business across the broad spectrum of the justice enterprise is ever changing, and that has profound implications for the design, management and operation of critical information resources.

Building consensus around these complex issues of integrated justice, however, is only a first step in effective planning, design, implementation and support. Once jurisdictions have defined a realistic and articulate definition and vision of integration, they must also establish an effective governance structure, follow established strategic planning principles, understand how existing systems and IT resources and projects relate, understand the host of organizational, technical, legal and policy issues surrounding integration, and recognize the long-term management issues that must be addressed, as well as critical funding and systems support.

Substantial support for ongoing research, the development of on-line resources, effective training and direct technical assistance in integrated justice information sharing has been provided by the Office of Justice Programs, U.S. Department of Justice. Moreover, there are a host of national organizations and professional associations that are completing research, providing training and technical assistance, and providing other support for jurisdictions in planning, implementing and supporting integrated justice.
Endnotes


2 See http://www.search.org/integration for profiles of State and local jurisdictions actively developing integrated justice systems.

3 In response to the call for a Global Justice Information Network in then-Vice President Gore’s Access America report in 1997, then-Attorney General Reno took a leadership role in coordinating with local, State, tribal, Federal and international justice entities. For advice in this effort, Attorney General Reno created the Global Justice Information Network Advisory Committee, which is chartered under the Federal Advisory Committee Act and is presently led by Chairman Col. Michael Robinson, Director, Michigan State Police, and Vice Chairman Gary R. Cooper, Executive Director, SEARCH. For current information on activities supported by Global, see http://www.it.ojp.gov/global/index.html. The Access America: Reengineering Through Information Technology report is available online at http://govinfo.library.unt.edu/npr/library/announce/access/acsrrpt.html.

4 Codified at 42 U.S.C. § 14601.

5 See Concept for Operations for Integrated Justice Information Sharing (Lexington, Ky.: NASCIO, forthcoming), a report of the National Association of State Chief Information Officers (NASCIO) that focuses on justice agency integration at the State and local levels. The ConOps report is designed to define the universal attributes for information sharing that are inherent in contemporary visions of integrated justice and, from this research, to identify the information technology (IT) architectural implications for State CIOs. This research, conducted in conjunction with OJP, is also expected to help leverage the significant investment Federal, State and local governments are making in integrated justice, and help coordinate these efforts with broad trends in e-government objectives and IT development. An earlier version of this Integration in the Context of Justice Information Systems report guided development of the ConOps report, and this revised version has, in turn, built upon research completed for the ConOps report, which was written by SEARCH Deputy Executive Director David J. Roberts under contract to the NASCIO Architecture Committee.


20 10 C.F.R. § 73.57.


24 SEARCH, The National Consortium for Justice Information and Statistics, is presently engaged in a project funded by BJA to identify key dimensions in the exchange of critical information at key decision points in adult felony and misdemeanor case processing in several jurisdictions throughout the nation. The research is aimed at defining fundamental attributes of justice information sharing. See David J. Roberts, David H. Usery and Amir Holmes, Background Report — Planning the Integration of Justice Information Systems: Developing Justice Information Exchange Points (Sacramento, Ca.: SEARCH, February 2000). For current information regarding the project, see http://www.search.org/integration/info_exchange.asp.

25 The “publish” function, as defined here, recognizes the affirmative publication and distribution functions normally associated with delivering information to subscribers, as well as publication in channels that simply make the information available to users via Websites, fax-on-request, posting in public places, etc.


28 The SEARCH Integrated Justice Website, http://www.search.org/integration, provides a variety of reports, case studies, project descriptions, profiles of State and local jurisdictions, and other resources to assist in integrated justice information sharing. In addition, other organizations also provide technical assistance, training and resources to jurisdictions in integrated systems planning and implementation. See, for example, National Governors Association, http://www.nga.org/; Center for Technology in Government, http://www.ctg.albany.edu/resources/htmlrpt/justice_for_all/index.htm; International Association of Chiefs of Police, http://www.theiacp.org/pubinfo/researchcenterdox.htm; National Association of State Chief Information Officers, https://www.nascio.org/; and other organizations and initiatives supported by OJP agencies at the primary OJP site: http://www.it.ojp.gov.