PERSPECTIVES

Government Information Sharing: *Calls to Action*

*Volume 1: JUSTICE*

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introduction

Background

In 2000, NASCIO (formerly NASIRE, The National Association of State Information Resource Executives) published a report titled, "Toward National Sharing of Government Information." The report focused on the justice community and provided detailed discussion of the characteristics of shared information, the definitions of significant information management issues and terms, and brought to light important "calls to action" necessary to institute change in information sharing. Among the many recommendations and topics covered was the need for common vocabularies and a national telecommunications infrastructure.

The report served as the impetus for major subsequent activities including the publishing of "Concept for Operations For Integrated Justice Information Sharing" in 2003. Another subsequent activity was the development of NASCIO's Enterprise Architecture Program.

The significance of "Toward National Sharing of Government Information" cannot be over emphasized given the subsequent proliferation of products and services within NASCIO's Enterprise Architecture Program.

In the fall of 2004, NASCIO's Architecture Working Group decided that the report should be revisited to assess progress to date, and that a new set of "calls to actions" be established. This follow-up report is just that. It takes a different approach in that it covers a variety of lines of business and levels of government. The intention here is to look at the current state of information sharing, identify and discuss the major issues and outline the "calls to action" required to move forward.

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A Changing World

In today's world, managing change has become the most important dimension of management. Charles Kettering once stated, "If you have always done it that way, it is probably wrong." Government must change in order to effectively respond to the current dynamics in today's world. There must be an operating discipline in place that both anticipates change and fully leverages that change for the benefit of the enterprise, and its constituents. NASCIO believes that operating discipline is enterprise architecture. Enterprise architecture provides an enterprise view—a comprehensive, holistic view of the enterprise that includes environmental understanding, explicit strategic intent, and the organization, business processes, and technologies that enable that intent. Enablers are capabilities that must be evaluated, and prioritized. Capabilities are delivered or further leveraged through management initiatives, programs and projects.

Enterprise Architecture Value Chain

Enterprise architecture provides the means for managing the complexities inherent in any enterprise. Enterprise architecture also provides the necessary operating discipline for managing the changing enterprise. The enterprise must be seen as an organism that changes and adapts—and even causes change. However, change must be seen as a continual process. NASCIO created the Enterprise Architecture Value Chain to describe an ongoing, iterative operating discipline for managing the enterprise as a fluid that is continually changing through time. This holistic

![Capabilities Diagram](image_url)
view just described goes beyond the immediate. An enterprise perspective is needed that understands the importance and complexities of inter-enterprise relationships. Quickly, this enterprise perspective looks beyond traditional boundaries and conceives of value chains that move across these boundaries. These greater clusters of enterprises may be termed communities of interest. Further inquiry uncovers that the borders of these communities of interest are also becoming fuzzy as the need for interaction becomes more and more apparent. These interactions materialize into inter-enterprise architectures involving inter-enterprise business processes and information exchanges. Information sharing and collaboration between state governments for law enforcement is an example.

Information exchanges, or information sharing—these are different terms referring to the same concept. Others may use different terms. The point is that information is flowing more than ever, and it is flowing over traditional boundaries as decision makers become more and more sophisticated in their understanding of events and the interactions of influences that drive primary, secondary and tertiary effects. This sharing has become complex as will be described in this document. Changes include cross jurisdictional and cross line of business information exchanges. Changes also include delegated information exchanges to the computer involving machine to machine automated exchanges. These machine to machine exchanges include the necessary logic to review content for sensitive information and automatically assign the proper security classification. These automated exchanges also evaluate the requester to determine authority and authenticity before allowing the exchange to occur. Emerging technologies, such as Service Oriented Architectures (SOA), enable the connectivity of various automated functions that allow applications to trigger other applications. For example, this occurs when an application triggers an identity management system to authenticate an automated request for information from yet another application.

As we begin to look at information exchanges, we find there are new information exchanges as our culture sees more and more necessity and benefit from sharing information. Nowhere is the need for these types of exchanges more apparent than in homeland security. Homeland security touches any number of lines of business depending on the event. These include integrated justice, public health, environmental protection, national defense, international alliances, and even commerce. Certainly, it appears homeland security will be the primary developer of information sharing capabilities as we move into the future and an area that will benefit most from an enterprise perspective.

In the recent Final Report of the National Commission on Terrorist Attacks Upon the United States the lack of information sharing is frequently cited as a primary factor leading up to 9/11, and the lack of comprehensive coordination during 9/11. One of the key recommendations going forward is the imperative for a unity of effort in information sharing both nationally and internationally. Information sharing capabilities are absolutely necessary for intelligence and justice agencies to be able to "connect the dots" in order to prevent future terrorist attacks. In the event of a future terrorist attack, information sharing is again one of the key imperatives for responding to the aftermath.\(^1\) The recent

\(^1\) http://www.gpoaccess.gov/911/
intelligence reform bill which implements recommendations from the 9/11 commission is replete with requirements for information sharing. Information sharing is indeed one of the key capabilities in transforming the intelligence community. Other examples can be drawn from medical records, hazard alerts, and integrated justice. Again, the capability to share information is critical in all government lines of business in government.

As stated, government is never done exercising the ongoing "Enterprise Architecture Value Chain." We must continually monitor the world around us as we identify needs and markets, anticipate market and political disruptions, establish explicit strategic intent, and deliver the capabilities to enable that intent. As we move into the future, one of those capabilities is information sharing across jurisdictions, and across lines of business. As we explore this topic, we urge the reader to maintain an "enterprise perspective" of the world. This perspective may also be termed a "global perspective." If information sharing as a necessary capability is to be effectively developed, it will be necessary for all involved to maintain this "enterprise view" in order to avoid point solutions, and stovepiped applications.

Government Information Sharing: Calls to Action

"Calls to Action" seemed appropriate as this report and those who participated in its creation are convinced that all must participate in the overall call to address this issue of information sharing. This must truly be a mission in which we all participate. For as the reader will see, this is not a technology problem—it is an organizational problem, and a human problem. It is critical that barriers to information sharing be understood in this way if we are ever to truly conquer this issue.

If information is to be shared, there is the necessary establishment of standards for sharing. Exchange partners must agree on the content of the information and the protocols for how that information will be represented and transmitted. For instance, the justice community has faced the issues of standards during a long history of information sharing initiatives.

If information is to be shared, then the rules for sharing must be well understood by all involved, and those rules must be consistently and effectively applied.

If information is to be shared, then people must begin thinking with an enterprise view. They must put the enterprise and its constituents ahead of their own career, and personal ambitions.

If information is to be shared, people must accept and embrace the changing of boundaries, job scope, and business processes. If government is to be truly transformed, than old paradigms must be abandoned. There will need to be a new type of manager. One that adapts roles and responsibilities to best serve the changing needs and requirements of the citizen. Government must be seen as an institution for the citizen, not for the career public administrator. The same change must occur with all government personnel. Change should not be merely tolerated. It should be embraced. What

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is proposed in that change in mindset is a view of government service as a commitment to public service—i.e., one of high calling.

*If information is to be shared, then it cannot be withheld.* This seems too obvious. The many dynamics involved in organizational behavior become most relevant in this issue. Dynamics include power, prestige, control, personal security, and even fear of change. *Information that is withheld will serve limited purpose in government.* Notwithstanding this admonition, information must be properly protected and treated as an asset.

*If information is to be shared, it must be properly managed.* This includes the appropriate security to ensure information assets are protected. However, properly managed information is shared with those who are authorized to use it. *This requires that information is properly and consistently classified.* This also requires that information stewards are properly trained. And, requesters of information are properly authenticated to have the proper authority, and the necessary clearances to access information.

NASCIO is exploring the subject of information sharing from this enterprise perspective. As part of this initiative, NASCIO recently published a video on information sharing titled "*In Hot Pursuit: Achieving Interoperability Through XML*"[^1], which presents some of the barriers and solutions. Additionally, NASCIO has conducted a survey of opinions from a variety of individuals, and expertise centers regarding the concept of information sharing—barriers and calls to action. This report, presented in two volumes, offers a variety of perspectives and a variety of modes of delivery. Included are interviews, written submissions, and summaries of existing testimonials and literature. Interviews are presented that involved both individuals and panels from various recognized expertise centers on information sharing. In all cases, NASCIO was motivated to present expert opinions. These opinions are honest and frank—but all are offered in the spirit of continual improvement. If we can be honest, and provide a candid assessment of the "as is", then there is true potential for making things better.

This survey of opinions included representatives from integrated justice, state government, public health, homeland security, environmental protection, and transportation. This report is presented in two major sections: Volume One is devoted to the justice community, and Volume Two is covers the broader topic of "government." This compilation is not exhaustive. However, it is believed that it successfully outlines the major barriers to information sharing that are prevalent throughout government. The end game is to objectively identify these barriers with the intent of rationalizing the relevant solutions for overcoming or mitigating these barriers. These solutions and recommendations are termed "calls to action" in the context of this report.

NASCIO recognize the valued contributions of all who participated in the making of this report.

Eric Sweden, Editor
Enterprise Architect
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[^1]: See, https://www.nascio.org/publications/index.cfm#xml
Information Exchange Modeling: Understanding the Enterprise and Creating a Blueprint for Success
Kelly J. Harris, SEARCH Deputy Executive Director

The barriers facing those who are trying to foster collaboration, information sharing and integration are not new or unique. Indeed, the age old challenges of politics, personalities, turf and ownership continue to surface as the most difficult to overcome, yet also the most critical issues to address for jurisdictions to further information sharing.

What has changed in recent years, however, is that justice and public safety practitioners realize that these historical barriers must be kicked down, hurdled over, or blasted completely out of the way. There is simply no choice. Mandates and directives, from Executive Orders to congressional legislation, to after-action reports that investigate the handling of major public safety events (especially the 9/11 Commission Report) demand information be shared—immediately, effectively and securely. And if that’s not enough, perhaps the biggest driver is an increasingly vocal and sophisticated public expectation. The public—which is becoming acutely aware of the power of technology and the obstacles to government information sharing—will not tolerate excuses of politics, personalities and battles over turf for failing to share needed public safety information.

And so, in the past several years, there has been a great deal of nationwide activity to build tools that will help overcome, or at least mitigate, these challenges and get us on our way to successful information sharing. Best practices have been identified, tools have been created, methodologies have been adopted, standards are being developed and the justice information sharing industry is taking an unprecedented leadership role to make integration happen.

Understanding the Enterprise: A Complex Problem

The justice enterprise alone includes numerous justice and nonjustice agencies that operate a myriad of systems for collecting, maintaining, analyzing and sharing data and information critical to carrying out their respective missions. Creating the capacity to share information and data among and between agencies, levels of government and a variety of disciplines—indeed, creating an enterprise approach—means overcoming established barriers to data exchange. It involves understanding cross-jurisdictional information needs and the data and information exchanges that cross sometimes radically different lines of business.

Interoperability is the ability of agencies to work together toward common ends. It depends on a vision of what those ends are and how separate capabilities are combined to serve them. Representatives of the various agencies, disciplines and levels of government, therefore, must come together to formulate and agree to a unified strategy for achieving interoperability. These are not exclusively technical issues that can be addressed by programmers and data
processing managers. To the contrary, planning for and implementing information sharing systems is a complicated business that involves a multifaceted array of political, organizational, legal, technical, security, cultural and personal issues that must be addressed and upon which decisions must be made. Because of the inherent complexity of these issues and the constitutional separation of powers that is also present, decision makers, stakeholders and other users must be intimately involved in effectively designing an enterprise information sharing capability.4

The difficulty in planning for information sharing initiatives (e.g., getting business leaders and practitioners to the table to talk, establishing a strategic plan, developing an information architecture, adopting appropriate standards, etc.) in many instances is associated with the lack of understanding about how the enterprise actually operates.

During day-to-day business, for example, a law enforcement agency’s activities have enormous impact on its partner organizations throughout the justice system. But on a daily basis, law enforcement administrators are not necessarily examining that impact. For example, when a police officer makes an arrest, numerous activities are set in motion. The officer may use a mobile computer to query, access and send critical information about an incident. The officer may request information about an individual’s correctional, probation, or parole status; information regarding warrants, hot files, and information from the National Crime Information Center (NCIC); and/or information from local, regional and state records management systems. Each of these requests demands the responding organization provide accurate, timely and complete information while protecting the confidentiality of certain data, and ensuring distribution to only authorized users.5

Meanwhile, information generated by the arrest triggers numerous activities internal to the law enforcement agency, while simultaneously generating external activity at locations such as the jail, the prosecutor’s office, sometimes the courthouse, social services and potentially many others. Indeed, many activities have been set in motion by this single event, and thousands of such events and transactions occur daily within tens of thousands of justice agencies alone. It is even more daunting to envision when you consider that this example merely considers a single, one-way push of information out to multiple partners. In reality, at the same time this one-way push is occurring, this agency is also receiving multiple information queries and pushes from other partners.

Law enforcement agency administrators, like all other administrators within the enterprise, are responsible for the daily operational activities of their agency, and that leaves little time to consider the details of how each organization’s partners within the justice enterprise (no matter how critical their role) conduct their business.

But the challenge is getting all participant organizations thinking as an enterprise. As the introduction to this report noted, “Enterprise architecture provides an enterprise view—a

5 See Concept of Operations for Integrated Justice Information Sharing, July 2003, V1.0, National Association of State Chief Information Officers. This publication is available online at: https://www.nascio.org/publications/index.cfm#conops.
comprehensive, holistic view of the enterprise that includes environmental understanding, explicit strategic intent, and the organization, business processes and technologies that enable that intent." Viewing justice as an enterprise means each participating organization understands its role in the overall process of administering justice, the dependencies it creates and the interdependencies that are critical to the overall success of the enterprise. Those dependencies and interdependencies are centered around information, and how participants share, process and use it.

A fundamental part of achieving integration and information sharing is understanding how the enterprise works, how information is exchanged, and how daily business processes enable or inhibit information sharing.

**Modeling Business Process and Analyzing Information Exchanges Reveals the Enterprise**

When organizations come together to understand how they are currently doing business, and how they can improve operations and develop efficient and streamlined business processes, something else happens. A detailed understanding of information flow among and between agencies affords participants the opportunity to visualize the individual components operating (or not operating) as a whole, and this, in turn, underscores the enterprise nature of information exchange.

There is no great secret in conducting a review of business processes and information exchanges. Analyzing information exchange between agencies has been a recognized and important part of IT planning for justice agencies. Historically, however, it often took an agency-centric approach, looking at information exchanges between a single agency and its closest business partners. But to make information exchange modeling effective, the recipe demands getting the right people involved and providing the right tools for analysis. To clearly envision the enterprise, the business processes must be understood. This is not a technical exercise, but one that relates to the group’s vision and mission. To do this effectively, decision makers from participating organizations must be actively involved and they must represent all of the constituent agencies. They come together to analyze how they collectively do business and discussions will center on the needs each partner has for information, policy and legal constraints, security concerns and priorities, maintenance and dissemination procedures and many other policy level considerations.

In addition to getting the right people around the table, it’s also important to establish and agree upon a methodology for capturing and analyzing detailed information about business processes and the data and information that is and/or needs to be exchanged among the partners. By following a consistently applied methodology, participating organizations expose current business processes, and from there can model new processes. They can also investigate the impact to those processes created by changes in systems and business practices.

**Creating a Blueprint for Information Sharing**

Once practitioners understand the enterprise and how it conducts business, they can begin to build a blueprint for a more effective enterprise. Information sharing analyses will expose inefficiencies, redundancies, gaps and opportunities in the current system. Once the systems’ current operations are clear to decision makers,
they can make decisions about how they want to work together in the future and construct a blueprint or "to-be" plan.

**The Benefits to Analyzing Business Process and Information Sharing**

Throughout this document and in many other writings, the challenges to information sharing have been articulated and are strikingly similar—most have to do with people and personalities, concerns over "turf" and struggles over policy-related issues and decisions. Some of the ancillary benefits of business process and information sharing analysis can help address these issues.

**Conquering Personality Conflicts and Bringing People Together**

Conducting a business process/information exchange analysis is critical for more than just analyzing information exchange. It is one of the few opportunities to bring all the different partners together to take a holistic view of an operation. It assists in breaking down barriers between people and turf. It is a mechanism that brings people together on common ground with a common purpose and goal. As such, conducting business review exercises has, in many cases, helped jurisdictions overcome one of the biggest challenges to successful integration and information sharing: getting people to work together.

Analyzing business processes and the information shared provides a look at how the enterprise operates, rather than merely focusing on a single participant's operations. It illustrates how each agency operates and its responsibilities, challenges and obstacles, while highlighting how its operations impact the effectiveness of the enterprise as a whole. The methodology allows for all partners to specify their information-sharing requirements within the context of the enterprise. Because all partners are heard and the business needs are commonly presented, mutual understanding of each partner's roles, responsibilities and burdens are revealed. Partners can then begin to develop solutions that help one another, creating a synergy, and thereby improve the enterprise.

As partners uncover the way their enterprise conducts business, they begin to recognize how the enterprise could change for the better and they begin to overcome the fear of change, which is often associated with a feeling of loss of control and subsequent turf issues. Through this review, partners gain an understanding of and empathy for one another's challenges and insight into why business may be done a specific way. In many instances, one agency's challenges have easily been overcome by a partner agency offering a solution, but that solution could only have come with a knowledge of the current process.

**Adopting Standards**

Information exchange and business process analysis also builds the foundation for successful standards implementation. It identifies what information is needed by participant agencies; determines when and under what circumstances to share information; highlights the difference between agencies regarding a) whether the information is even captured, and b) how the information is captured, stored and available for transfer. With the emergence of contemporary technologies (e.g., eXtensible Markup Language, or XML), agencies do not necessarily need to significantly reprogram their existing information systems, but they can use integration hubs, broker technologies and practitioner-based data dictionaries and data models to transform data for effective exchange. With the "as-is" business processes and information exchanges understood, and the "to-be" models built, enterprises
can then settle on standards for operation and implement them for re-engineered business practices.

**Making Funding Decisions**
Funding for information sharing is sporadic, at best, primarily because few funding streams are structured to recognize the enterprise nature of these efforts. Instead, funding streams are often developed and targeted directly for partners within the enterprise. In justice, for example, there are numerous funding streams that provide needed monies to law enforcement and public safety agencies via the Departments of Justice and Homeland Security. Courts often have revenue bases that are driven by fines and fees, but that are obviously pumped back into the court’s operating budget. But because of the nature of the "stovepipes" that have been developed within jurisdictions over time, few funding streams are specifically designed to encompass an enterprise approach.

Developing the blueprint for how an enterprise desires to operate will clarify for each of the partners where enhancements are needed, and can illuminate business processes with the most need for reform. That, in turn, can assist jurisdictions with making decisions about priority projects and efforts. It can foster agreement among partners so that when a funding stream becomes available to one partner, it may also be leveraged to enhance the efforts of the enterprise.

**Security and Privacy Efforts**
As enterprise partners examine what types of data and information is/should be exchanged, with which partners and how it is used, this information can give them very real understanding about data security, and direction concerning how to make policy decisions about the privacy of data and information. Concerns over which data is made available and what happens to the data when it is shared are always paramount in an information-sharing environment. Demystifying the process and detailing the information shared helps policymakers make appropriate decisions about critical privacy and security issues.

**Justice Information Exchange Model© (JIEM)**
One of the most promising tools for analyzing business processes and associated information exchanges, and, thereby, addressing some of these more pervasive barriers to integration is the Justice Information Exchange Model © (JIEM). It is rapidly expanding to public safety, homeland security and has great potential for other information sharing efforts.

JIEM is a vital information sharing modeling tool and methodology that has been developed by SEARCH™ with funding by the Bureau of Justice Assistance, U.S. Department of Justice. JIEM was initially designed to research and analyze the information exchanges that occur within the justice system and to prove a theory: that most of those exchanges were common across the entire U.S. justice system. Proving the theory began to take shape as the business processes and information exchanges of five participating states were analyzed. It immediately became

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clear that a large percentage of exchanges were common across these initial research sites. As JIEM expanded to include more and more state and local jurisdictions, the research continued to build, and the automated tool that resulted became a critical asset in facilitating justice information sharing systems planning and implementation throughout the nation.

Justice information sharing refers to the ability to access and electronically share critical information at key decision points throughout the justice process. Through identification of these key decision points, and the information that flows between various justice entities at these critical exchange points, state and local practitioners are provided with an enterprise-wide view of information sharing priorities.

JIEM provides a conceptual framework to represent the flow of information between justice agencies; defines the key events that trigger the need to share information; identifies the agencies involved in the exchange; and describes the nature of the information exchange, down to the data element level. Most importantly, the information exchanges captured in JIEM can be mapped to the Global Justice XML Data Model (GJXDM),7 the XML standard for justice information sharing.

JIEM is in use by over 45 jurisdictions across the country to analyze, document and re-engineer their information sharing processes and has been groundbreaking in establishing a standardized methodology for justice information exchanges.

JIEM allows an enterprise to map both the current "as-is" information exchanges, and then, through analysis and business process alignment and reengineering, to model enhanced processes in the "to-be" or future exchanges. This is how JIEM contributes to the development of a blueprint for information sharing.

**Common Exchanges Create a Reference Model for Others to Use**

Of particular importance is that the state and local jurisdictions using JIEM have created databases that contain their detailed justice information exchanges. JIEM was designed to allow administrators to review, compare, contrast and find commonalities with exchanges entered by other jurisdictions. That research has led to the development of a universal set of common exchanges for justice integration.

The "Justice Reference Model" is comprised of nearly 700 common justice exchanges nationwide. With the Reference Model, sites that are just beginning their integration efforts can incorporate those exchanges contained in the model, rather than starting with a blank sheet of paper to create their own. They can download those exchanges into a new database that can then be tailored, added to and adapted to reflect the unique needs of their jurisdiction. The Reference Model enables justice agencies to build exchanges that reflect their individual business practices, but in a manner that is consistent with national activities and initiatives. Moreover, it saves jurisdictions a great deal of time by enabling them to leverage the work of other jurisdictions, and build on the common exchanges that research has demonstrated are truly universal. Most importantly, this essential capability of JIEM was developed by and for the public.

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7 The Global Justice XML Data Model is accessible online at: http://it.ojp.gov/topic.jsp?topic_id=43.
practitioners who use the tool to model actual, operational exchanges in their jurisdictions.

While JIEM was developed to target justice system integration, the JIEM concepts and project methodology are transferable to any domain facing similar information sharing business problems. Indeed, efforts are presently underway to extend the benefits of JIEM analysis and modeling to tribal justice, juvenile justice, first responders, emergency management, and similar types of information exchange business models. The JIEM conceptual framework documents the flow of information between agencies and describes the nature of the information exchange, irrespective of whether one is analyzing justice or non-justice system exchanges of information.

The JIEM methodology and tool have direct relevance and can be used by any enterprise seeking to analyze its business processes, understand its information exchanges, and re-engineer the way it does business.

What is JIEM?

The Justice Information Exchange Model (JIEM) is a tool to assist justice system leaders to analyze and document existing information exchange at the enterprise level, to design new electronic exchange processes as a part of an integrated justice initiative, and to adopt and implement national business, data, and technology models to save time, effort, and money.

JIEM has four components:

- A conceptual framework for understanding justice information exchange
- A methodology for analyzing current information exchange and for reengineering information exchange in an information sharing environment
- The JIEM Modeling Tool®, a Web-based software package to assist justice system practitioners in applying JIEM
- The JIEM Reference Model, a set of information exchange descriptions that are common to most jurisdictions

Who Uses JIEM?

JIEM can be used by justice—or any—practitioners during the strategic planning phase of an information sharing initiative, or later by developers during the design of specific interfaces between applications. Using JIEM, a site can accomplish the following:

- Document existing business processes and information flow among and between partners with a variety of text and graphical outputs
- Analyze the effectiveness and economy of existing practices
- Model improved information exchange, creating blueprints for the integration initiative
- Analyze existing data transfers to determine which provide the most favorable cost/benefit ratios for automation
- Use JIEM outputs as inputs to other developer tools to enhance justice applications and to develop interfaces between systems
- Access, import, and extend national models, such as the JIEM Reference Model, the Global Justice XML Data Model, and reference exchange documents and implementation specifications from the developing Global Justice XML Registry/Repository
- Register locally developed XML implementation specifications for documents in the national repository for use by others
• Provide data to support national efforts to develop and improve models, methodologies, and tools to support integrated justice.

**JIEM Benefits**

The JIEM analysis requires the active participation of stakeholders from all participating organizations. It delivers a number of benefits to local, state, and regional integrated justice efforts that go beyond the specific products provided by the system, including:

• An opportunity to bring staff from diverse but interdependent justice disciplines together with a common language and methodology to focus on business practices of mutual concern at the enterprise level
• Access to best practices from around the nation to avoid reinventing the wheel
• Free software and support to preserve scarce resources; a personal computer and internet access are the only requirements to access JIEM
• Participation in national efforts to improve the integration of justice information resources.

**What is the Future of JIEM?**

Since the release of version 3.0 of the JIEM Modeling Tool© in February 2004, 325 individuals have been trained and 168 have been certified to use the software in 25 training programs held throughout the nation. 14,599 exchanges have been documented in 65 production databases. A link has been created between JIEM and the Global Justice XML Data Model (GJXDM), providing the capability to search and import elements from the GJXDM directly into JIEM. A business reference model has been created, which saves time and effort in using JIEM, and helps ensure results that are more consistent across jurisdictional boundaries.

The principles upon which JIEM is based are not specific to the Justice enterprise. As such, using JIEM for other government information sharing initiatives in emergency management, transportation, and intelligence are already being explored. Those domains will also benefit from reference models comprised of common exchanges for their constituent agencies.

In the coming year, new tools will be added to JIEM to assist developers, including Universal Modeling Language (UML) and Extensible Markup Language (XML) outputs to speed the implementation of JIEM and the GJXDM. The JIEM/GJXDM interface will become a web service, ensuring that the latest data model changes will be instantly available to JIEM users. A search wizard and mapping wizard will be added to JIEM to improve access to the GJXDM and to allow the creation of GJXDM-compliant documents within the JIEM Modeling Tool. Users will be able to create want lists and conformance, constraint, and extension schemas within JIEM. They also will be able to search and download reference exchange documents and implementation specifications from the Global Registry/Repository when it becomes available. Finally, JIEM users will be able to register their own versions of reference exchange documents as implementation specifications in the registry.

JIEM is an essential tool for information sharing. When used in conjunction with the GJXDM, it provides help through the entire development spectrum: business processes, the data layer, and the technical tiers of the architecture.
Case Study: Alaska

Alaska had a six-month backlog of 17,000 citations, totaling about $1 million, awaiting default judgment at the court. The old citation handling process required that each citation be manually entered in three different locations: the Anchorage Police Department, the court, and the state repository. The data entry backlog at the court increased the difficulty of collecting on the citations, because of people moving, etc. It also kept the state from attaching funds paid from the permanent fund dividend, Alaska's equivalent of a tax intercept program. After mapping out the business processes carefully with JIEM, both the current "as-is" and the desired "to-be" procedures, they developed the design for an interface to pass the citation electronically from the police system to the court and repository. Once the interface had been designed from a business perspective, they were able to use the GJXDM and a private-sector XML middleware product to implement the exchange of citations between the Anchorage Police Department and the court, instantly eliminating redundant data entry and 12,000 of the 17,000 citations in the backlog. Now default judgments are processed immediately, which increases the amount of money collected and helps ensure better compliance with the law. JIEM played a critical role in solving this justice system problem in Alaska.

Conclusion

Business process modeling and information exchange analysis are critical parts of planning for information sharing. The obvious benefits are in solving operational inefficiencies and business challenges, and creating a blueprint for streamlined and efficient operations. Of equal—if not greater—importance are the ancillary benefits this exercise generates. Overcoming barriers by creating bonds between information-sharing partners through the understanding of common challenges and needs; developing a clear link between re-engineered processes and adopting information sharing standards; prioritizing funding challenges; and making informed policy decisions about data and information security and privacy are some of the most important results of this exercise.

JIEM is a tool that has been created to facilitate this analysis and modeling from an enterprise perspective, and it's proven effective in countless jurisdictions around the nation. In addition to documenting information exchange, the tool has enabled jurisdictions to model business practices and reengineer business processes to facilitate greater and more effective information exchange. It has also served as a critical catalyst for change by bringing decision makers and practitioners together to examine how they work together and how their coordinated efforts can build an effective information sharing enterprise. It has worked in the justice domain. JIEM's principles, practices and methodology can work in other domains as well. For more information on JIEM, please visit www.search.org.
Effective and timely information sharing has been a challenge for some time in the justice community. In 1998, the Office of Justice Programs (OJP) of the U.S. Department of Justice convened a series of focus groups around the country to discuss issues of information sharing and to identify the impediments to information system interoperability. There were a number of conclusions reached from these meetings, but a primary theme was that the lack of standards for exchanging information between computer systems was at the heart of the reason "stovepipe" systems continued to proliferate. As a direct result of practitioner recommendations made in these meetings, OJP undertook an initiative to improve automated information sharing in the law enforcement and justice world.

In addition to funding studies by the International Association of Chiefs of Police (IACP), the National Center for State Courts and other agencies to document the state of information sharing and integrated justice information systems, the Office of Justice Programs (OJP) initiative led to the formation of the Global Information Sharing Advisory Committee, Global, which is a formal Federal Advisory Committee (subject to Federal law such as requiring all meetings to be open to the public) appointed by the Attorney General. Global, as it is referred to in shorthand notation, is essentially a consortium of 28 organizations that represent the leadership of law enforcement and justice agencies throughout the country, as well as selected Federal agencies. Global is not an operational entity, but adopts by consensus policies and positions that result in recommendations to the Attorney General regarding information system advances.

Based on the premise that information technology standards would have to be developed and then fully adopted by the companies who make most of the software applications employed in law enforcement and justice agencies, the Attorney General urged OJP to invite input from these companies collectively and OJP invited companies to participate in the Integrated Justice Information Systems Industry Working Group (IJIS IWG). These companies later founded the Integrated Justice Information Sharing (IJIS) Institute, a non-profit organization designed to provide technology assistance and training in the use of advanced technologies to state and local governments through grants from the Bureau of Justice Assistance in the OJP. The IJIS Institute also participates in the development of standards for information sharing.

The Promise of XML

Around the time that OJP began to address this problem, a new technology was emerging that offered significant potential for building standards and reducing the cost of interoperability between computer systems. The broad adoption of an internationally recognized open standard called
the eXtensible Mark-up Language (XML) was seen as the basic mechanism around which law enforcement and justice agencies could automate the exchange of information between computer systems. XML is basically a set of rules and procedures for creating electronic representations of the kind of documents that law enforcement and justice agencies exchange every day to conduct their business. A series of standards for creating and sending electronic documents were adopted by international standards organizations and by all the major technology companies to allow computer based information exchange.

The members of Global clearly saw the potential of using XML as a standard in the justice world, and quickly adopted a policy endorsing the use of XML across justice disciplines. However, the effective use of this exciting new technology required the development of a vocabulary of terms and definitions that would be interpretable by any stakeholder agency in developing automated exchanges. Global then recommended to the Attorney General the creation of an XML Structure Task Force (XSTF) to define a standard data dictionary and to define the relationship between data elements in a structured model that could form the basis of national information exchanges between law enforcement and justice agencies.

The Promise of GJXDM

The XSTF is primarily a practitioner driven organization, augmented by technologists from industry and academia, which has defined the content and structure of a national model called the Global Justice XML Data Model (GJXDM). It took input from many individual organizations from around the country and relied heavily on the research that had been conducted by SEARCH, the National Consortium for Justice Information and Statistics, regarding the nature of information exchanges between justice agencies. The engineering work to develop the model as defined by the XSTF was assigned to the computer scientists of the Georgia Technology Research Institute.

Over twenty-one state and local law enforcement and justice organizations saw the potential of using the GJXDM as a basis for information exchange. Among those involved were the states of Pennsylvania, Arizona, New Mexico, Kentucky, Colorado, and Minnesota; counties including Maricopa County, Arizona, and Orange County, Florida; and over nine hundred police departments in the state of Ohio. These organizations came together and began to implement the first production release of the GJXDM which was issued in January, 2004. However, it is a complicated and sophisticated model, involving very modern concepts such as object orienting modeling, and few technologists in the public or private sector were prepared for the adoption of this model. In response to this situation, OJP created an adhocracy called the GJXDM Training and Technology Assistance Committee (GTTAC) as a consortium of organizations engaged in technical assistance and training related to technology in the justice field, and GTTAC has been delivering training and technical assistance programs since May of 2004. GTTAC members include the Law Enforcement Information Technology Standards Council (LEITSC), the IJIS Institute, SEARCH, the National Center for State Courts, the National Law Enforcement and Corrections Technology Centers, the Georgia Technology Research Institute (GTRI), the XSTF, the Regional Information Sharing Systems Program (RISS), and others who offer help in understanding and applying this model.

In addition to training on the implementation of the GJXDM, GTTAC has recognized the need
for models that state and local agencies could use to implement, document or exchange specific implementations. The member organizations have divided up the work of creating what are called reference documents to be guides that give examples of specific document exchanges, such as an arrest report or sentencing order, so that implementers can have a starting point for adopting the GJXDM in their systems. This is the major focus of GTTAC for 2005, along with the creation of a national virtual help desk centered on the GJXDM.

In addition, efforts are underway to extend the GJXDM to incorporate other needs. The IJIS Institute is working under a grant funded by the Department of Justice Bureau of Justice Assistance (BJA) to extend the model to handle juvenile justice exchanges, and there will be an effort to incorporate transportation system exchanges particularly between transportation centers and first responder CAD systems.

The GJXDM continues to increase in its application, as the FBI has now adopted the GJXDM as the standard on which its new National Data Exchange (NDEx) incident reporting program will be built, and future Uniform Crime Reports (UCR), National Incident-Based Reporting System (NIBRS) and other incident sharing for investigative purposes will operate. The national exchange of terrorist information will also be based on the GJXDM, and many states have already fully adopted this standard for information exchange among justice agencies in the state. In the fall of 2004, OJP created a special condition to apply to all Federal grants that had any aspect of automated information sharing. As a part of the grant requirements, the recipient must agree to base such exchanges on the GJXDM.

**Standards**

There are actually three levels of standards that have to be put in place for all of this work to result in true interoperability among computer systems. The **technical** standards have been and are being developed around XML by such bodies as the world wide web consortium (w3c), the International Standards Organization (ISO) and other standard setting bodies. The **data** standards are being presented in the GJXDM and continue to develop under the guidance of the XSTF and GTRI. What remain to be established are the **functional** standards calling for the use of the technical and data standards in implementation. It is generally recognized that the development of functional standards should come from the individual disciplines engaged in law enforcement and the administration of justice. As an example, the National Center for State Courts has for several years been developing the functional standards for the various kinds of court systems (criminal, civil, etc.).

In the law enforcement field, there is one specific consortium tasked and funded to develop functional standards—Law Enforcement Information Technology Standards Council (LEITSC). With the active participation of IACP, the National Organization of Black Law Enforcement Executives (NOBLE), the National Sheriffs Association (NSA), and the Police Executive Research Forum (PERF), this body will define functional standards for the IT functions needed to serve law enforcement. The research resulting from the LEITSC Council and its subcommittees will then be vetted through appropriate committees of each participating organization in an effort to define and adopt national standards.

When this work is complete, there will be fully defined consensual standards that can be applied to ease the work of information sharing
throughout the nation. However, standards can never be allowed to stagnate, and each participating organization will have to ensure that there are programs and projects to review and revise the standards or they will die from lack of use. The challenge to stakeholder organizations is to create an ongoing refreshment of all of the standards as technology changes, and as the nature of the business changes.
In the mid-1990's, a lot of momentum was created around a process for developing information technology solutions within the justice enterprise. The planning models prescribed included the following:

- Identify stakeholders
- Establish governance
- Do an assessment of what you have
- Conduct a capability and needs assessment
- Establish a visionary process for describing the future enterprise
- Conduct a gap analysis
- Develop integration projects/plans.

This is basically the high-level process that evolved and was propagated. The justice community started to use it and followed that process logic as dogma. However, has there been any real evidence to say that this works? Those who developed and presented this approach had no best practices to draw upon. It appears logical, but is it applicable and manageable to a level of detail that can guarantee outcomes for success? There were never any specific details, definitions or examples that were truly usable. For example, "Gather your Stakeholders." What does that really mean? Have we truly gathered our stakeholders? Project managers need to ask that question and, determine whether they have established an adequate governance that can function effectively, and make the kinds of decisions necessary for their enterprise. One governance mechanism may have worked in one jurisdiction, but that does not mean that the same mechanism will work in others.

The level of success of these complicated projects is often measured by the politics. That is, what has been presented and demonstrated in order to justify an investment, versus true outcome and performance measures. These former measures of success are often a political or commercial hyperbole that comes out of the communication machine of the invested politicians or vendors, and not fact.

Much of this issue lies in the overwhelming complexity and immense amount of detail required in the planning of enterprise information sharing projects. Within a governance mechanism, leadership (and delegated authority given to committee and work teams) must be able to drill down to this kind of detail. So the question remains: have the necessary stakeholders been engaged to accomplish this, and is there the necessary organizational will to deliver that due diligence?

Projects fail, and in trying to determine why they failed project managers identify other issues when the problem was caused by a lack of clear and effective governance. The reality is, too often project managers gather the stakeholders that they are most comfortable working with. The highest-level leaders will either not be engaged, leaving those middle-managers and users in their agencies powerless to fully participate and execute, or these same policy-makers take too much control and micro-manage a
process they do not understand—frequently out of need to protect their turf, their budgets, or the control of the project as a whole.

**Trust—A Level Playing Field**

In applying an enterprise view, we have to foster and facilitate a network of trust. However, this issue of governance and stakeholder participation begins and ends with an ability to change how entities of government interact and the true level of trust that actually exists. It's about power, control, and budget. And there are limits as to how far agency heads are willing to go with integration and information sharing projects.

Many stakeholders can agree that the process outlined earlier is conceptually good, and they know they should participate politically. However, when the rubber hits the road, when money gets dispersed, or decisions are made to determine what projects will get funded, the outcomes are dependant on who will reap the most benefit. Leaders, realizing that they may be on the short end of a decision, will back away or undermine the project.

So, what is the acid test for proper stakeholder involvement, and what is the model for governance that will insure success of a project? That needs to be determined through a legitimate strategic planning and project definition process. And once determined, it needs to be applied within a framework of sound project management discipline.

This issue of trust is also critical, and one of the struggles in identifying stakeholders and establishing governance structures and membership. We have trouble with governance because governance positions are often not filled with the highest-level people who can "make things happen." Often they are not "engaged" and "at the table." The existing governance and stakeholder positions are filled with middle managers who bring forth excellent recommendations, but "nothing happens" because their superiors are not engaged.

Another problem is putting people in the governance positions that are at too high a level compared with other positions. This creates an environment that isn't fair from the start. This can happen when incorporating representatives from counties and municipalities. These jurisdictions must feel they have an equal voice along with larger jurisdictions. Further, the appropriate "roles and responsibilities" of an enterprise project need to be matched to the appropriate level of the governance body. For example, executives should not be engaged in details about technology, project management, process review, etc. But they should establish direction and visioning.

So, how is the right governance established, and how are the right stakeholders identified and brought into the project so that the initiative can commence, funding can be obtained, and the initiative moves forward? Rules must be established that reach down to the right level of detail. There must be a methodology that is executable and can be repeated. Examples must be presented that demonstrate what has worked, and how it works on a day-to-day basis. Examples can be very effective in gaining commitment, understanding and appreciation of the enterprise perspective. But it's hard to find examples where such a process has worked, or has been well documented. There are a handful of states that have had broad success in justice information sharing, yet all examples have some shortcoming in one aspect or another across the spectrum of projects.
**JISP Pre-RFP Toolkit**

The Justice Information Sharing Professionals (JISP)\(^8\) has worked with the IJIS Institute to develop a Pre-RFP Toolkit that provides examples of strategic plans, needs assessments, standards guidelines, etc.\(^9\) In the first (current) edition a framework was developed, but good and consistent content was difficult to come by. There continues to be a struggle today (as the 2nd edition is being developed) to collect and cull these examples and demonstrate any standardization between the outputs. It was felt that it was important to emphasize that project teams should not simply copy the samples. They need to go through the enterprise development process for themselves with the right stakeholders. It is fundamental that these project teams define the problem for their jurisdiction, generate the calls to action and the business case, then develop their approach and execute on their plan. Simply copying and pasting an example from another project and declaring it a "best practice" is not how to do a project plan, or develop any documentation relating to a unique enterprise architecture. The examples in the Pre-RFP Toolkit are intended as guides to assist and "jump-start" an initiative. To prevent, as much as possible, teams from having to "re-invent the wheel." However, it is still imperative for them to go through the due diligence of defining themselves and their direction.

With respect to technology, there has been a lot of lip service toward embracing an enterprise perspective, and growing excitement about the emerging open architecture standards, and internet standards (e.g., XML). And it is important for teams to understand and embrace these things. But in a world where technology can solve the physical problems of integration, the whole paradigm shift falls back on government to develop the means for establishing trust when it comes to actually sharing information, establishing security policy and practices, establishing access control, and dealing with mistrust in sharing data. Agencies must be proactive in defining what information they have, what they can and are willing to share, and what they are willing to relegate to a centralized service model. In the end, if the entities involved and their respective leaders are not willing or able to sit down and agree to a framework of policies for the sharing and acceptable use of their collective data, they cannot expect technology to solve their problems.

It's often hard for agencies to move to this paradigm. Many agencies are still grossly stovepiped and even though agency heads will come together in forums, they continue to work independently. They need to move toward working collaboratively with a common purpose and a common galvanizing point.

There is significant challenge in these projects both from an enterprise perspective and a technology perspective. Often we are dealing with people who are working in 20 year old technologies for doing summary reporting, while managing antiquated data repositories and communication switches. If they are moving forward at all, in most cases they are putting web-enabled front-ends on these systems. In essence, they are one full wave behind the emerging technology. The reality is they are not being pushed forward by their leadership or their current environment. Enterprise architecture

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\(^8\) see OJP/JISP, http://it.ojp.gov/topic.jsp?topic_id=51
\(^9\) see OJP/JISP/RFP, http://it.ojp.gov/procurement/files/Applying_IT.pdf
projects simply can not be led by this group. It is imperative that projects like this involve innovators, forward thinkers, and a strategic approach to lead these types of efforts.

**Contributing Initiatives**

Some initiatives that are contributing significantly to the necessary paradigm shift include National Law Enforcement Telecommunication System (NLETS)\(^\text{10}\) in their recent upgrades to TCP/IP and in beginning to move some of their interstate messaging to XML and the Global Justice XML Data Model (GJXDM). The Global XML initiative, as a whole, is also beginning to contribute to what is a slow evolution into new standards and enterprise components and concepts for affected agencies. These initiatives are positively influencing state agencies to move into new technologies. Another influencer is the FBI. In law enforcement, wherever the FBI Criminal Justice Information Services (CJIS) chooses to raise the bar, the state agencies will be forced to follow (e.g., the National Crime Information Center (NCIC) 2000). Without this influence, most agencies will remain in the framework of 20 year old technology which cannot effectively reflect current and emerging business needs and practices. These efforts will even begin to merge in their impacts, as in the FBI National Data Exchange (N-DEx) project and their adoption of the GJXDM for the project's data specifications. Forward and strategic planning state agencies will recognize the benefit of moving ahead of this curve.

Unfortunately, the majority will lag behind it for many years. When it comes to the full range of services and technologies encompassed within the Service-Oriented Architecture, along with the shifting business and management approach for IT inherent in that architectural design pattern, Gartner Group (and several other researchers) have observed that an entire generation of IT managers will have to be retired before this paradigm truly transforms our technologies and business approaches to information sharing.

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\(^{10}\) see NLETS, http://www.nlets.org/general.html
Today it is a foregone conclusion that improved information sharing is critical to delivering effective justice programs and ensuring our homeland security. But when it's all said and done, information sharing needs to demonstrate an increase in public safety and reflect sound public policies. We must ask ourselves, as trusted policy makers, stewards of public resources, citizens, and taxpayers involved in information sharing: As a result of our work, are our families and friends any safer than they were yesterday? What about a year ago? If not, why not? And, what will be the long-term impact of our efforts?

Restorative justice is defined as a systematic response to wrongdoing that emphasizes healing the wounds of victims, offenders and communities caused or revealed by crime. This concept has a complete set of principles, values, goals, and stakeholders.11

Policymakers cannot be comfortable with the status quo or govern their agencies in the absence of clear policies and measurable programs. Action and results are expected by our constituents and, further, the consequences of a failure to plan are tantamount to a failure to act. That action needs to be planned and executed using best practice tools and resources now available to the field.

**Vision**

The vision for community safety and justice in Kalamazoo County is: "Kalamazoo County seeks to be the safest, most just and restorative community in the nation." In keeping with that vision, the community has developed a "Community Safety and Justice Service Continuum" inclusive of prevention, intervention, rehabilitation, corrections, and reentry services. This requires the use of data-driven approaches, assessing risk, strengths and needs, applying "evidence-based" strategies, and measuring and evaluating "what works." All require good data and resulting information. Kalamazoo County is not unlike most jurisdictions: it struggles to obtain the information it needs for good decision-making, it does the best it can with the information it has, and is working to address the gaps using the tools and resources that are now available to advance data collection and information sharing.

**Cross Agency Collaboration**

People using the services along the continuum (from prevention through reentry) typically require the services of multiple other agencies. For example, a child involved in the county’s

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local family services program may have an unemployed non-custodial parent who is incarcerated, who is enrolled in community treatment or under alternative forms of supervision, and is behind in child support. There is an increasing demand for cross agency collaboration and an emphasis for sharing information outside traditional agency boundaries to bring about a more holistic approach to dealing with families.

There must be a balance maintained in information sharing with clear and thoughtful policies for the "need to know" regarding the information being shared. There must be the establishment of a culture of understanding around what that information means and in the end, how it's going to be used and its impact on the safety and security of citizens. Many times, information sharing can actually work against established goals in certain lines of business.

**Potential Barriers**

Regarding restorative justice, information can become a barrier to forgiveness and community reconciliation. This is not to say that pertinent information should not be shared—rather that there is a responsibility to understand and prepare for how that information is going to be used. Examine, as a case in point, the reentry of ex-offenders from prison. This year there will be around 650,000 people across the country returning to our local communities—in Michigan that number is over 10,000—in Kalamazoo County that number is about 300, or 25 to 30 a month. Based on historical data, without appropriate community interventions and services, we can expect half of them to return to prison within 24 months. Many of these ex-offenders will face multiple barriers upon release including their basic survival needs: food, clothing, and shelter. Additionally, issues of substance abuse and mental health, community connectivity, and employment make successful reentry problematic for the majority of ex-offenders.

There are many legal barriers and restrictions with regard to ex-offenders being eligible for low-income housing subsidies and vocational opportunities. There are additional barriers to obtaining employment: If an ex-offender shares information with a potential employer that they are, in fact, an ex-offender, they are much less likely to obtain a job. If they can't work, they can't support themselves and their family, they can't successfully reintegrate back into society, and they will likely return to what they know. Ultimately, this has implications for public safety, for the taxpayers who foot the bill for their re-incarceration, and to the other domains (such as education) that vie for their share of limited state funding. The point is, society needs to think through what actions it should take to mitigate the risks associated with information sharing.

Anytime information sharing is driven by the intent of the agency or organization, it is based on a belief that the agency objectives can be better achieved through information sharing. That intent needs to be understood and should be driving the development of any capabilities to enable that intent. It cannot be assumed that collaboration and information sharing will automatically lead to more effective delivery of services or higher quality of life.

**Metrics**

Incorporating performance measures into justice information sharing initiatives is critical to effectively monitoring project implementation and demonstrating success toward achieving long-term goals and outcomes. Performance measures should be used to:

- Establish a baseline for demonstrating results;
• Align project goals with policy strategies;
• Make project goals operational;
• Provide for benchmarking; and
• Ensure cost effective returns on investment.

**Tools**

The Center for Society, Law and Justice (through the Bureau of Justice Assistance-grant number 2002LD-BX K002) has designed a set of tools to assist in the development of performance measures for justice information technology projects tied to "public safety" and "reduced crime." The Logic Model Framework is a useful tool that can help planners make the links between process improvements and desired outcomes.

In addition to resources available through NASCIO, there are a number of other tools and standards being developed that can expedite the implementation of successful information sharing projects (referenced throughout this document). Technical assistance and tools around performance measures, facilitated strategic planning, project management training, emerging technologies and standards, capability assessments, and the Justice Information Exchange Model (JIEM) are available in the public domain. Further, the Justice Information Sharing Professionals group (JISP) is also a good resource for sharing best practices and lessons learned. All of this assistance is in place to help expedite the sharing of information and bring this knowledge to the states. In the end, it is crucial to the health and safety of our country.
Global's concept of justice information sharing is an ambitious vision of a justice community that is defined in the broadest terms possible, reaching across disciplines, levels of government, and branches of government. Global has decided to use enterprise architecture to support the vision of the organization. This can be found in a report titled "A Framework for Justice Information Sharing: Service-Oriented Architecture (SOA)" produced by the Global Infrastructure/Standards Working Group and published on December 9th, 2004, on the Global website.

Global's Vision

This report presents six requirements for an architecture that will support Global's vision for the sharing of data:

1. The architecture must recognize innumerable independent agencies and funding bodies from local, state, tribal, and federal governments.
2. Information sharing must occur across agencies that represent divergent disciplines, branches of government, and operating assumptions.
3. The infrastructure must be able to accommodate an infinite range of scales, from small operations with few participants in a rural county to national processes that reach across local, state, tribal, federal, and even international boundaries.
4. Information sharing must occur among data sources that differ widely in software, hardware, structure, and design.
5. Public sector technology investment must reflect and incorporate the lessons and developments of the private sector.
6. The infrastructure design must be dynamic, capable of evolving as the information sharing requirements change and the technology is transformed.

The Global Justice Architecture work group recommends leveraging Service-Oriented Architecture (SOA) to accomplish these six requirements. These six requirements present a formidable landscape for an infrastructure that will support justice information sharing on a local, state, tribal, and national level. It is Global's contention that the technologies are now maturing for meeting the technical requirements and that a conceptual framework is available to exploit these technologies for the justice community. These technologies consist of the standards, specifications, and protocols that have been developed to support the Internet, specifically the Web. The conceptual framework

that has emerged to apply these technologies to information sharing is Service-Oriented Architecture (SOA).

**Justice Service-Oriented Architecture**

Justice SOA is an approach to the design and development of an information system. The assumption is that a system should be designed and developed around the basic components of the operational procedures or, in the language of the software literature, the business practices of an agency. These components are then combined into a loosely related larger structure that, in turn, can be combined into an even larger entity. It assumes that the design of a system begins with a concept of the business practices of an enterprise (e.g., case-flow management, investigations, or trial preparation), which identifies the critical components (e.g., personal identification, sentencing document, or arrest report), that define the parameters of stand-alone pieces of software (i.e., services).

The effect is to permit the evolutionary development of a system. Software can be written to serve specific purposes (e.g., define the identity of an individual) and shared on an approved basis with other programs (e.g., borrow the identity definition software of the postal service in a judicial case management system). Lessons learned from development of the components can be used to revise the business practices that, in turn, can guide the development of additional components. It then follows that a system can begin small—organized around specific operations—and evolve into a larger, more comprehensive system as the parts are linked together. This approach to design, development, and implementation is possible because of the technology developed for the Web.

The ability of these Internet-based technologies to support exchanges of messages and searches for information across a seemingly infinite number of participants has become all too familiar. The focus is upon the message and its utility to the user rather than on the underlying data source. The technology allows a search across a crazy quilt of hardware and software systems for information that is relevant to the user. SOA exploits those attributes in architectural design, whether the problem involves a single, small agency working on a dedicated network or a far-flung operation involving numerous agencies, databases, and operational requirements. SOA and “Web services” are often used interchangeably, but strictly speaking, Web services is just one—if the most viable—way to realize the benefits of SOA.

The second breakthrough was the advent of open standards for sharing information across networks without regard for the underlying technologies or applications. This is what an SOA enables. At one stroke, the need for centralized coordination of technology or application disappeared and an economical means of communicating became possible because many vendors support the open standards around which SOA is built.

**Global’s Action Agenda**

If SOA is to be used successfully as the framework for justice information sharing architecture, Global must play a proactive leadership role in several areas.

First, Global has formally, actively embraced SOA as the recommended framework for a national infrastructure to support justice information sharing and will integrate its requirements into all of its activities.

Second, Global will take steps to encourage the
creation of a mechanism for drawing together the experiences and lessons from the field. Global is looking for a process and refers to their XML Standards Task Force (XSTF).

Third, Global will reach out to existing national systems to incorporate their efforts into the design of an overall strategy. The pipes for moving this information across the country already exist in the National Law Enforcement Telecommunication System (NLETS), the American Association of Motor Vehicle Administrators network (AAMVA.net), Regional Information Sharing Systems (RISS), etc. Global wants to take advantage of these existing pipes, not supplant them.

Fourth, the six issues identified in the aforementioned report—services, standards, interagency agreements, registries, security, and privacy and data quality—will be a major part of the agenda for the next set of activities of Global. Global understands that the first roadblock is the private data issues. Therefore, there is a committee to work on service level agreements such as information resource planning (IRP) agreements for interstate trucking.

Fifth, Global will develop a multi-tiered strategy for the public sector to influence standards. It will include encouraging the creation of a public process as it did with XML; taking part in industry groups developing standards that are relevant to justice (e.g., World Wide Web Consortium [W3C]); and developing partnership processes with industry and other public entities. There is a standards committee to address this issue.

Conclusion
Global is uniquely situated to provide the leadership required. There is no other entity at the national level that can command agreement by local and state governments, agencies, or branches of government. This is exemplified by the on-going collaborative relationship Global maintains with NASCIO and other communities of interest. There are national entities that are in a position to structure the debate within specific subject areas, but no other body exists for the justice community. National standards and practices that are to serve the justice community require a group that holds enough stature in all of the several disciplines to give immediate credence to its products. Global brings that credibility to the process.
Barriers to Re-engineering Justice Related Business Processes

Panel interview with
Dr. Peter Scharf, Executive Director, Center for Society, Law and Justice
Dr. Heidi Unter, Associate Director of Research, Center for Society, Law and Justice
Dr. Mike Geerken, Chief Information Officer, Attorney General’s Office, State of Louisiana
Steve Prisoc, CIO and Director, Judicial Information Division, State of New Mexico
Mark Myrent, Assistant Director, Illinois Information Authority
Lt. Lon Ramlan, San Francisco Police Department

Barriers

The major barriers to re-engineering justice processes to facilitate information sharing are not technological in nature. Technological capabilities have been in place from some time and additional technologies are being invented and implemented everyday. The major barriers to justice process re-engineering instead have to do with the people side of managing change and the difficulties inherent in multi-stakeholder collaborations.

While there are many people in criminal justice, both technical and non-technical, who are working with older legacy systems and are unable to reap the advantages of new technologies, this is becoming less and less the case. Through initiatives such as JIEM and GJXDM the benefits that current technologies offer to information sharing is quickly spreading across the justice landscape.

With technology becoming less of a major obstacle, the remaining major hurdles involve the inability of criminal justice agencies to effectively collaborate. This difficulty goes beyond projects seeking to facilitate information sharing. In fact, many people can embrace and participate in information sharing initiatives, but become resistant to business process re-engineering initiatives that involve cross-agency business processes. The re-engineering and streamlining of justice business processes are key to enabling improved performance on agency missions and effectuating improvements in core outcomes such as public safety.

Information technology is a tool that enables information sharing and cooperation among diverse agencies. A major barrier is motivating people at the local level to participate. There has been great progress in some areas, but, there are still problems. Some of the challenging organizational dynamics in the justice community are described in a research paper titled, "Reengineering Justice Business Processes: Identifying and Overcoming Barriers to Change." This paper is available through The Center for Society, Law and Justice (CSLJ).

The nature of electoral politics, and the fundamental power struggles that go on in these government offices, often make cooperation and collaboration difficult. Understanding some of the key foundations for how and why agencies and organizations behave is critical for successfully navigating a business process re-engineering
effort designed to promote information sharing among justice agencies.

One of the issues in managing projects for success is ensuring there is proper representation at the table. You need representatives from business, management, operations, technology, and policy level leadership. However, in many projects only one or two of these interests are represented.

The CSLJ paper states:
An effective design team requires a wide range of authority, knowledge, and skills, including:
1. Executive authority with complete commitment to change and to the design/implementation process
2. Management skill: what can be done and how to do it
3. Knowledge—technical (existing systems, possible systems)
4. Knowledge—criminal justice (business)\(^{13}\)

Information sharing projects incorporate a highly diverse mix of stakeholders and team members. These types of projects bring together business people and technology people. These two groups often fail to effectively communicate with each other, which can lead to breakdowns in project plans and schedules. Exacerbating this challenge is the fact that it is difficult to convey the technical aspects of integration to people without a technical background, or who lack expertise in that particular aspect of technology.

**Role of Organizational Dynamics**

There is a neglected area of study and that is the area of inter-organizational relations. What is interesting is that there has been significant success in the corporate world in completing projects that involve many departments and organizations. Yet, we have not seen that kind of success in government. Why?

Part of the answer lies in the nature of government and the underlying organizational dynamics that drive behavior in the government context. Often in government bureaucracies, there is a high propensity to promulgate the status quo. In contrast, the business process changes associated with successful collaboration in the corporate world is necessary for their survival. Cross organizational collaboration is also desirable in government and the justice community. However, there are times when it appears that government agencies can survive year after year and even be "rewarded" for seemingly doing nothing. Some of this is due to an aversion to risk on the part of entrenched civil service employees. Some of this behavior is due to the power basis of government which is vested in elected and appointed officials. These officials are at times not necessarily the most qualified for the job, nor are they necessarily available for business transformation kinds of projects. Their planning horizon is too short—looking only to the next election and not beyond. In short, they lack an enterprise perspective.

**Team Formation**

We are talking about inter-organizational relations and the motivations for forming, cultivating and sustaining these fundamental relationships. This aspect of program and project management

\(^{13}\) "Reengineering Justice Business Processes: Identifying and Overcoming Barriers to Change", by Dr. Michael Geerken, Center for Society, Law & Justice, New Orleans, Louisiana. See http://www.cslj.net/
must be understood if projects are going to be properly planned and framed, project teams properly assembled, and projects are to sustain through completion, delivering the outcomes established in the business case. It is extremely difficult to maintain continued participation from the respective parties understanding that the project teams are adhoc assemblies, and the team members have full time commitments that compete and win over any demands from such projects.

Additionally, the process for assembling teams is typically not effective. An effective approach is to establish a formal process for assembling project teams. This begins with establishing a governing board and the definition of what working committees should exist and their composition regarding knowledge, skills and experience. Board members should decide who will participate. It is important to recognize that decision making in government is often based on political self-interest. This behavior has to be mitigated if successful project teams are to be assembled and projects are to be properly managed to deliver the outcomes they are intended to deliver.

**Data Quality**

Once a project is launched, the discovery and analysis phases of the project can uncover a plethora of data quality problems that have been previously hidden or only understood by people very close to the associated processes that have used that data. As discovery continues, analysis may uncover additional conflicts related to risk management in a highly political environment. With cross-agency initiatives, various information protections are suddenly challenged. Such protections were in place as part of the political dynamics, but in an information sharing environment they create barriers to developing and implementing collaborative solutions.

Some of the barriers to information sharing that arise in such initiatives are due to the disparity in the level of granularity required by the newly partnered agencies. For example, if the information steward is the clerk of court, and the information consumer is the prosecutor's office, there is a problem. So, some information is re-entered redundantly because the different functions in justice store and use information differently. The prosecutor will need significantly more granularity in the information that the clerk of court.

Another barrier to information sharing is the concept of unique identifiers. Often, there is a lack of agreement on what constitutes a unique identifier and what the unique identifier should be. Some states have actually done this quite well. Most have not.

**Organizational Deficiencies**

Sometimes the biggest problem is ignorance among the CIO, agency directors, and policy makers. These roles often obscure key issues and hide deficiencies within their own agencies. This inability or unwillingness to admit deficiencies is a barrier to identifying root causes, and developing solutions that will enable information sharing. Information sharing initiatives quickly make these deficiencies apparent.

In addition, there is often a covert resistance from the rank and file. People are often reluctant to embrace change. Often people are motivated to simply wait for retirement. Change is seen as only complicating their lives. So, there is no motivation to embrace change, and so there is no motivation to productively participate in change management projects. Change management projects require innovation, creativity, and excitement about the future. What is needed is an entrepreneurial spirit. However, those with this kind of motivation are frequently sidetracked or
"downsized" out of the organization. This anticipated outcome stifles those who are innovative. So, there is no freedom to act, no freedom to truly change the organization, processes, or information sharing capabilities.

**Fiscal Crisis May Drive Cooperation**

There is another dynamic juxtaposed to the dynamics described. *Scarcity of resources.* David Osborne presented at the NASCIO 2004 Annual Conference, and has co-authored a book with Peter Hutchinson on the subject of permanent fiscal crisis that faces government.¹⁴ This permanent fiscal crisis should provide significant leverage in changing motivations and in overcoming these behaviors. Fiscal crisis will force agencies to cooperate, pool resources, and even consolidate common functions and applications. So, out of this crisis can come new behaviors that promote the common good.

**Level Playing Field**

Agencies that have worked together in the past have developed institutional memory that will hopefully serve them well in future collaborative efforts. Of course, if past working relationships were not healthy, this can work against collaboration. However, we are now in an age where a wide diversity of stakeholders need to be at the table. These stakeholders represent a variety of functions and expertise. Bringing together multiple agencies in a collaborative venture involves overcoming great disparities in culture and mission. Experts often present the concepts of collaboration, integration, information sharing, and project management as processes that can and should be implemented with all stakeholders maintaining an equal participation in such efforts. This is idealistic and often not the reality.

The reality is that agencies are often being brought together on such projects with other agencies. And, this is the first time they have worked together. They have had no previous relationship, or they don’t have a healthy relationship. Initiatives and decisions tend to be driven by one or two agencies that dominate the discussions, leaving the remaining participating agencies frustrated and resentful. Typically, these dominant agencies are those that contribute most of the investment, or have more of a presence in national policy making. These more powerful organizations can steer information sharing discussions and planning in a way that is predominantly self-serving and not consonant with the real aim of information sharing.

Even if the larger and more dominant agencies are generous in inviting and supporting true participation, the smaller agencies may resent the "benefactor" and may even spawn resistance from other agency members. So, again, the real aim of the initiative is not achieved. Both behaviors are irrational organizational pathologies. Dominating agencies on the one hand, and small agency saboteurs on the other. The small agency pathology is the result of a history of a general feeling of exploitation by the larger agencies in previous multi-agency initiatives. Past experiences breed resentment.

How are these pathologies overcome? The key is the establishment of a level playing field.

---

Power must be dispersed. This can be accomplished by setting up statutory veto power. Altruism on the part of the larger agencies can not be relied upon. It will either not exist, or be misinterpreted by the smaller agencies. However, providing veto power to all agencies gives even the smaller agencies real power. And, the establishment of equality is a most effective message regarding the true intent of the initiative and goes a long way to establishing trust and agreement. When projects are managed with this kind of preliminary governance, success is highly predictable. Projects that are successful should be well publicized to demonstrate what is truly possible in a collaborative environment that embraces equality, and maintains project management discipline. The end result is successful initiatives that improve public safety and the quality of life. Again, this type of behavior and the results it brings can be attributed to achieving an enterprise perspective.

The need for this perspective has been recognized within the justice community. Agency directors need to understand the fundamental principles of enterprise architecture as described in the beginning of this document. Without this enterprise perspective, agencies will easily misapply technology to the wrong business issue. Are we looking at solving an immediate problem, or are we thinking about business transformation? Every issue and problem is an opportunity to rethink how something is done.

What is required are initiatives that will proliferate this enterprise perspective. Leadership as well as all other staff need some level of understanding of what enterprise architecture is. Often the organizational dynamics in government are comprised of political fiefdoms. Planning large information sharing initiatives must recognize this dynamic. Motivations and incentives for participation must be defined that take this dynamic into account.

Part of the motivation definition must acknowledge that technology planning windows must relate to political planning windows. Timing must be established in sync with the political cycle. If the support of an elected official is required, then the timing of the project must take into account where that official is on their term timeline. If an initiative will not be substantially completed by the end of that term, there may be little support.
The contributors to this report touched on a number of issues and initiatives regarding information sharing within multiple lines of business within government. The interviews that were conducted involved people who are dealing with these issues on a daily basis. Their experience, knowledge, and resilience is impressive. They were also willing to participate in the creation of this document with the intention of making things better.

There are a number of themes and solutions that have come out of these interviews.

- Enterprise Architecture
- Organizational Dynamics
- Identity Management
- Privacy
- Sponsorship
- Funding
- Incentives
- Methodology
- Tools
- Common Vocabularies

**Calls to Action**

The recommendations from this list of contributors can make a difference, but only if they are used. The people interviewed are dedicated professionals who have stepped up to the plate as change agents who are willing to provide the rest of us with the benefit of their expertise and experience. This benefit won’t be realized unless everyone works to overcome barriers to information sharing and respond to the calls to action outlined in this report. It will take the combined effort of everyone to make a difference. NASCIO encourages the readers of this report to respond to these Calls to Action within the limitations and opportunities of their own circumstances.

Please submit any inquiries to Eric Sweden, NASCIO, esweden@amrinc.net, 859-514-9189.
appendix

Acknowledgements

NASCIO expresses its sincere appreciation to those who participated in interviews and contributed articles. These individual contributed candid remarks that present not only the real barriers, but also productive suggestions on how to move forward with information sharing—and establish an enterprise view within government.

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## appendix

### Organizations of Interest

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<th>Organization</th>
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<tr>
<td>American Medical Informatics Association</td>
<td><a href="http://www.amia.org/">http://www.amia.org/</a></td>
<td>The American Medical Informatics Association is a non-profit 501(c)(3) membership organization of individuals, institutions, and corporations dedicated to developing and using information technologies to improve health care. AMIA was formed in 1990 by the merger of three organizations - the American Association for Medical Systems and Informatics (AAMSI), the American College of Medical Informatics (ACMI), and the Symposium on Computer Applications in Medical Care (SCAMC). The 3,200 members of AMIA include physicians, nurses, computer and information scientists, biomedical engineers, medical librarians, and academic researchers and educators. AMIA is the official United States representative organization to the International Medical Informatics Association.</td>
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<tr>
<td>Association of Public Health Laboratories</td>
<td><a href="http://www.aphl.org/">http://www.aphl.org/</a></td>
<td>The Association of Public Health Laboratories (APHL) works to safeguard the public's health by strengthening public health laboratories in the United States and across the world. In collaboration with members, APHL advances laboratory systems and practices, and promotes policies that support healthy communities. The association's founding members are directors of state and territorial public health laboratories. Others include state laboratory staff, city and county laboratory directors, and international representatives. APHL is a non-profit, 501(C3) organization with a history of over fifty years. The LIMS initiative is described at <a href="http://www.aphl.org/Informatics/index.cfm">http://www.aphl.org/Informatics/index.cfm</a></td>
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The Bureau of Justice Assistance (BJA) is a component of the Office of Justice Programs, U.S. Department of Justice, which also includes the Bureau of Justice Statistics, the National Institute of Justice, the Office of Juvenile Justice and Delinquency Prevention, and the Office for Victims of Crime.

The mission of BJA is to provide leadership and assistance in support of local criminal justice strategies to achieve safe communities. BJA's overall goals are to (1) reduce and prevent crime, violence, and drug abuse and (2) improve the functioning of the criminal justice system. To achieve these goals, BJA programs emphasize enhanced coordination and cooperation of federal, state, and local efforts.

ComCARE Alliance is Communications for Coordinated Assistance and Response to Emergencies. ComCARE's goal is to promote an integrated, coordinated approach to emergency communications and support the development of a comprehensive "end-to-end system" to link the public to emergency agencies, and to link those agencies together. ComCARE seeks to enhance the ability to respond to individual and mass emergencies of all types by creating a network of survival which links existing technologies in homes and businesses, smart cars and trucks equipped with telematics, warning devices, wireless telecommunications, intelligent transportation systems, and advanced emergency care. Introducing 21st Century information and communications technologies to the often-antiquated communications infrastructure of emergency agencies will save thousands of lives each year, substantially reduce the severity of injuries and enhance homeland security.

CSLJ at the University of New Orleans, provides technical assistance, research, and training to criminal justice managers and other law enforcement personnel in cooperation with the Bureau of Justice Assistance.
Center for Technology in Government

http://www.ctg.albany.edu/about/

The Center for Technology in Government works with government to develop information strategies that foster innovation and enhance the quality and coordination of public services.

The Center carries out this mission through applied research and partnership projects that address the policy, management, and technology dimensions of information use in the public sector.

Department of Homeland Security

http://www.dhs.gov/dhspublic/index.jsp

DHS leads the unified national effort to secure America. DHS will prevent and deter terrorist attacks and protect against and respond to threats and hazards to the nation. DHS will ensure safe and secure borders, welcome lawful immigrants and visitors, and promote the free-flow of commerce.

Department of Justice

http://www.usdoj.gov/

The mission of the Department of Justice is to enforce the law and defend the interests of the United States according to the law; to ensure public safety against threats foreign and domestic; to provide Federal leadership in preventing and controlling crime; to seek just punishment for those guilty of unlawful behavior; to administer and enforce the Nation's immigration laws fairly and effectively; and to ensure fair and impartial administration of justice for all Americans.

Federal Enterprise Architecture Program Management Office

http://www.whitehouse.gov/omb/egov/

The Federal Enterprise Architecture Program Management Office (FEA-PMO) was established on February 6, 2002, in accordance with direction issued by the Associate Director for Information (IT) and E-Government, Office of Management and Budget (OMB). The lack of a Federal Enterprise Architecture had been cited by the 2001 Quicksilver E-Government Task Force as a key barrier to the success of the 24 Presidential Priority E-Government initiatives approved by the President's Management Council in October 2001.
The efforts of the Global Justice Information Sharing Initiative (Global) Advisory Committee (GAC) have direct impact on the work of more than 1.2 million justice professionals. The importance of the organization's mission, however, positions Global to impact citizens of the U.S., Canada, and beyond. Global's mission—the efficient sharing of data among justice entities—is at the very heart of modern public safety and law enforcement.

Global is a "group of groups," representing more than thirty independent organizations spanning the spectrum of law enforcement, judicial, correctional, and related bodies. Member organizations participate in Global out of shared responsibility and shared belief that, together, they can bring about positive change in inter-organizational communication and data sharing.

The GAC advises the nation's highest-ranking law enforcement officer, the U.S. Attorney General. Global aids its member organizations and the people they serve through a series of important initiatives. These include the facilitation of the Global working groups; development of technology standards, such as the Global Justice XML Data Model, Version 3.0; creation of white papers on data sharing issues, such as the National Criminal Intelligence Sharing Plan; and the dissemination of information via the Global Web site.

The work of the GAC has implications of the highest importance—making it the foremost voice for justice information sharing.

The Office of Justice Programs (OJP), together with the Global Justice Information Sharing Initiative (Global), has officially issued a newer version of the Global Justice Extensible Markup Language (XML) Data Model (Global JXDM) to the justice community—Version 3.0.2. This latest release of the Version 3.0 Global JXDM series is enhanced to increase the ability of justice and public safety communities to share justice information at all levels—laying the foundation for local, state, and national justice interoperability.
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<td>The Homeland Security Policy Institute (HSPI) draws on the expertise of the George Washington University and its partners from the academic, non-profit, policy and private sectors for a common goal of better preparing the nation for the threat of terrorism. HSPI frames the debate, discusses policy implications and alternatives and recommends solutions to issues facing America's homeland security policymakers. By linking academicians and scientists to decision makers at all levels of government, the private sector and the communities we live in, HSPI is working to build a bridge between theory and practice in the homeland security arena.</td>
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<td>The mission of the IJIS Institute is to apply the expertise of industry to assist justice agencies in the innovative use of advanced technologies to better share information in a way that benefits industry, the public sector, and society as a whole.</td>
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<td>This project, funded by the Bureau of Justice Assistance, U.S. Department of Justice, is designed to facilitate the development of integrated justice information systems planning and implementation throughout the nation. Integration of justice information systems refers to the justice community’s ability to access and share critical information at key decision points throughout the justice process. It is through identification of these key decision points and development of information exchange models that SEARCH will further nationwide integration efforts.</td>
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<th><strong>Justice Information Sharing Professionals (JISP)</strong></th>
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<tr>
<td>JISP is a National Network of state and local justice and public safety integrators responsible for the facilitation, collaboration, and advocacy of information sharing.</td>
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The Kalamazoo Criminal Justice Council (KCJC) is a multi-disciplinary, collaborative organization of countywide justice system and community leaders, who encourage local planning activities, enhance interagency cooperation, efficiency, effectiveness, and innovation.

The KCJC's vision is "to become and continue to be the best criminal justice system in America" by:

- Ensuring a safe community for all,
- Fostering fair and impartial treatment of all involved in the justice system,
- Effectively holding offenders accountable and restoring victims,
- Guiding offenders toward being responsible, contributing, and valued citizens,
- Initiating and supporting crime control and prevention efforts, and
- Serving as responsible stewards of public resources.

NASCIO represents state chief information officers and information resource executives and managers from the 50 states, six U. S. territories, and the District of Columbia. State members are senior officials from any of the three branches of state government who have executive-level and statewide responsibility for information resource management. Representatives from federal, municipal, and international governments and state officials who are involved in information resource management but do not have chief responsibility for that function participate in the organization as associate members. Private-sector firms and non-profit organizations may join as corporate members.
The National Law Enforcement Telecommunication System (NLETS) was created by the principal law enforcement agencies of the states nearly 35 years ago. Since the founding, NLETS role has evolved from being primarily an interstate telecommunications service for law enforcement to a more broad-based network servicing the justice community at the local, state, and federal levels. It is now the pre-eminent interstate law enforcement network in the nation for the exchange of law enforcement and related justice information.

The mission of NLETS is to provide, within a secure environment, an international justice telecommunications capability and information services that will benefit to the highest degree, the safety, the security, and the preservation of human life and the protection of property. NLETS will assist those national and international governmental agencies and other organizations with similar missions that enforce or aid in enforcing local, state, or international laws or ordinances.

Through fostering collaboration, innovation and action, the institute will advance the public health practitioners' ability to strategically apply and manage information systems. The institute provides service, educates stakeholders, informs policy, and conducts research on appropriate use of public health information systems.

The Public Health Information Network (PHIN) is this framework. Through defined data and vocabulary standards and strong collaborative relationships, the Public Health Information Network will enable consistent exchange of response, health, and disease tracking data between public health partners. Ensuring the security of this information is also critical as is the ability of the network to work reliably in times of national crisis. PHIN is composed of five key components: detection and monitoring, data analysis, knowledge management, alerting and response.

Creating a strong network that continues to define shared data standards to support the exchange of key health data is critical for a more effective and response-oriented public health system. The Public Health Information Network will serve as the framework supporting this new system, a system better positioned to respond to the changing needs of public health and consequently the nation.
SEARCH helps state and local justice agencies with their information and identification technology needs through effective planning and implementation assistance, high tech crimes investigation training, and criminal history policy. SEARCH developed the Justice Information Exchange Model (JIEM) tool for modeling information exchanges. JIEM has dynamic reference capability to the Global Justice XML Data Dictionary. To learn more about JIEM see http://www.search.org/programs/technology/jiem.asp
appendix

References

NASCIO Report
Information Privacy: A Spotlight on Key Issues

https://www.nascio.org/publications/index.cfm#privacyguide

This publication, produced by the NASCIO Privacy Committee, serves as a resource for states developing privacy policies that protect citizen information and are compliant with federal and state legal requirements. This publication highlights key issues in the following areas of privacy:

- Children’s Information
- Drivers' Information
- Health Information
- Financial Information
- Education Information
- Social Security Numbers
- Homeland Security-Related Information
- Website Privacy Policies
- Government Data Matching Activities and Agreements.

In addition, the publication includes state examples for many of these areas of information privacy, an overview of recent privacy events at the federal level and a glossary of privacy related terms.


The office of the federal privacy commissioner has extracted principles from the Privacy Act of 2000.

NASCIO has published version 3 of its Enterprise Architecture Tool-Kit. This document presents approaches to governance, business architecture, process architecture, data architecture, and technology architecture.