Monograph

Assessing Evolving Needs in Criminal Justice Agencies

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Center for Society, Law & Justice Staff

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Ms. Amy B. Brassieur, Design Consultant

Ms. Jane Herman, Administrative Coordinator

Principal Authoring Consultants

Dr. Denise Baer

Dr. Michael Geerken

Contributing Consultants

Mr. Michael Barnes

Dr. Paul O'Connell

Lt. Lon Ramlan

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Table of Contents

Introduction

This guidebook and manual is intended for executives and managers involved in a justice system information integration effort managed at the agency, local, or regional level. It provides a guide to assessing an integration project at any stage of its development and can be used as a planning aid, for project monitoring, and for evaluation.

This manual addresses four key stages of an integration project: (1) determination of project scope, (2) baseline analysis, (3) project plan development, and (4) implementation and impact assessment. It provides a discussion of basic principles representing the current wisdom of the field and an assessment checklist drawn from those principles for each stage. The assessment guidelines and checklists linked to the four stages can be used as planned steps in the project, to support decision making in the context of a funding cycle or other integration point, or as problem solving tools. In addition, the guidebook includes tips, techniques, and paths to resources for those involved in integration efforts. The guidebook can be used by any or all of the following:

1. An executive responsible for a project but not directly managing it

The assessment checklists can provide the executive with questions to ask project managers or with criteria that will help the executive to better understand and evaluate project documents that he or she must review and approve. This guidebook can help provide the big picture: an overview of what is important for managing integration projects.

2. A project manager

The project manager can use the assessment checklists as planning aids and as self-assessment tools. An important part of project management is the ability to objectively assess progress. The assessment, using the current knowledge available about the elements of project success, should be performed periodically in order to make adjustments as the project proceeds.

3. An outside evaluator

Representatives of funding agencies, legislators, auditors, and stakeholders not directly involved in the project can use it to satisfy themselves that the project is being properly managed and that the chances of success are maximized.

4. A project team

The assessment checklists can provide focus to promote team building and a common understanding of the task.

This guidebook assumes that, for the user, the case for integration of criminal justice information has been made and help is needed to get the job done. IT planning has to begin with the sober fact that less than 1 in 5 software development IT projects are considered successful (The Standish Group, 1995). While advanced technologies have created new opportunities for integration, they also create more complex choices. The ability to assess these projects at key points is the aim of this book.

Assessing an information technology project is like photographing a moving object; it must be done several times to achieve a complete picture. A successful project requires repeated assessment to ensure that it is staying on course and accomplishing what was intended. Assessment tools are management tools. They ensure a dynamic, evaluable, and accountable project. This booklet provides some overall assessment tools to implement the assessment process, and points out where other types of specialized assessment and management tools may be helpful.

Project Stages

This guidebook addresses the assessment of four stages of justice integration projects:

1. **Scope determination:** the definition of project scope, including the authority for the project and the concept of operations.
2. **Baseline analysis:** the analysis of the existing technical architecture and business rules and the identification of gaps between the current situation and the concept of operations.
3. **Project planning:** the definition of the "To-Be" model and the "plan of action" that applies resources to address needs and solve problems based on agency priorities.
4. **Implementation and impact assessment:** the plan for measuring project progress and success that helps to justify outcomes to stakeholders and sponsors.

Source Materials and Key Documents

Essential materials for assessments include:

1. **Written planning documents:** scope statement, needs assessment, strategic plan, evaluation plan, and other key project documents.
2. **Documentation of standards used or applicable to the project:** includes federal, state, local/regional, agency, profes-

sional, and technical standards for confidentiality, privacy, data, hardware, software, wireless, functional requirements, etc.

3. **Business rules:** documentation of rules defining the conditions and requirements for the exchange of information, including legal requirements and practices covering privacy, confidentiality, security, dates for the purging of information, and disclaimers on information accuracy.
4. **Performance indicators**: measures of project and system performance.
5. **Stakeholders:** documentation of stakeholder commitment.
6. **Documentation of the planning process:** including project structure and teams, meeting times, agendas, decisions and other planning artifacts, etc. Assessment is easier and more accurate if key decisions are recorded as they are made.
7. **Support materials and data:** including support materials developed for meetings and presentations.

What is Integration?

Since this is a guidebook geared toward assessing justice integration projects, the topic of information sharing and integration will be briefly addressed. Integrated justice information sharing is "the ability to electronically access and exchange critical information at key decision points throughout the justice system." (SEARCH, 2000) The justice enterprise includes:

- Justice agencies
- Non-justice agencies
  - Other government agencies
  - Health and human services organizations
  - Treatment service providers
  - Schools and educational institutions
  - Licensing authorities
- The public

The ability to share information is accomplished through the automation of information exchange.

This guidebook focuses on local and regional information technology integration efforts that:

- Involve two or more agencies
- Are rule-driven

- Use contemporary technologies

Two or more agencies might include multiple agencies of the same type (e.g., multiple police agencies, multiple courts, etc.) or agencies of different type within the same system (e.g., an IT system that serves both police and a court, or another that serves juvenile justice agencies and schools). The stakeholders included will depend on the problems addressed and the scope of the project.

Rule-driven means that the procedures and processes by which information is shared are standardized, explicit, and formalized. These rules are made explicit in terms of information exchange points, business rules, and workflow processes. They are formalized through Memoranda of Understanding (MOUs), Joint Powers Agreements (JPAs), and inter-local agreements.

Contemporary technologies include n-tier architectures, web-based services, XML (eXtensible Markup Language) and data warehouses. IT system architectures include both hardware and software.

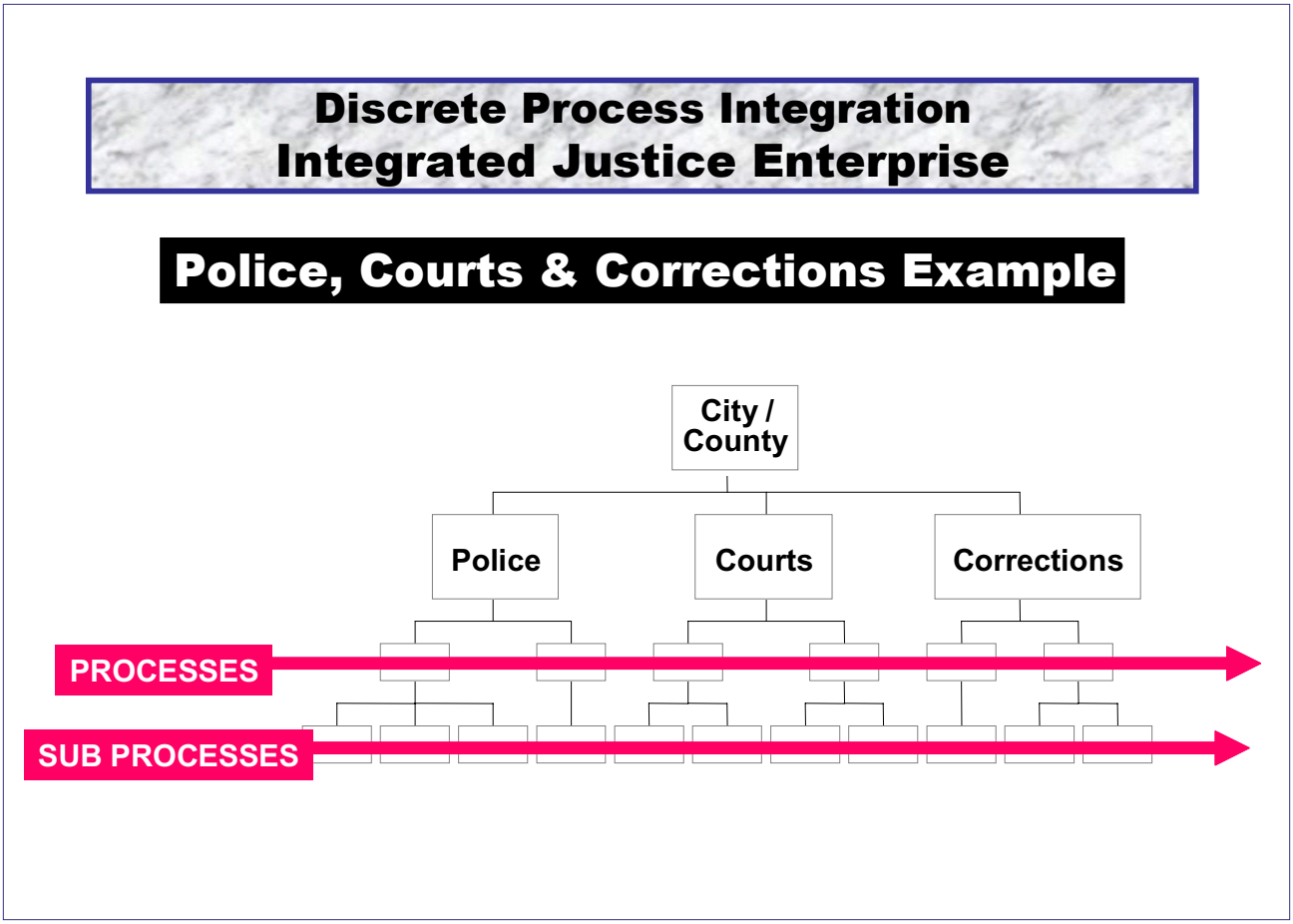
Types of Integration

Agencies have different types of objectives in terms of integration: as-needed critical information sharing, discrete process integration, shared practice, or enterprise-wide integration.

As-needed critical information sharing includes information sharing, reporting, and electronic document transfer. Many local jurisdictions are interested in focusing on enhancing systems to provide access to needed data in "real-time" to help an individual do his or her task better. Many IT projects develop out of a need to more efficiently share electronically information traditionally shared by paper transfer or telephone.

Examples of critical information are RAP sheets, probation status and conditions, drug test results, and bond information. Critical reporting includes UCR and NIBRS data, sex offender registration, and victim notification. Critical documents include orders of protection, commitment orders, release orders, and warrants.

Discrete process integration is automation of information flow along the path of a process involving multiple agencies. Information moves to trigger work as an individual or case is "handed off" from one agency to another – or to multiple agencies at one time – perhaps including private service providers. Process integration is information sharing designed to help different agencies work together across agency lines. From a management perspective, this is known as the "process vision." Process integration is conducted by working closely with directly involved personnel who have inti-



mate knowledge of existing policies, procedures, and rules, and how these standards affect the outcome.

Shared practice and **enterprise-wide integration** are long term goals. Both require fairly complete specification of the business rules for information sharing, as well as a clear understanding of how the workflow will shift. At present, only a few jurisdictions and projects aim this high because of the complexity of working through these specifications before the workflow changes are actually made. These efforts go beyond strategic planning and sharing specific facts, moving towards a close working arrangement and even new governance structures.

Shared practice can include two or more justice disciplines, like treatment providers working with police or schools working with justice or juvenile justice agencies. Projects like Safe Schools/ Healthy Students (http://www.mentalhealth.org/safeschools/default.asp) and the National Council of Juvenile and Family Court Judges Domestic Violence/Child Protective Service (http://www.ncjfcj.org/dept/fvd/res_center/) partnerships use IT and work together to develop shared norms and protocols for practice. Often

this will include multiple workflow processes and even cross-training. Some states like Colorado (http://www.state.co.us/gov_dir/cicjis/) and Minnesota (http://www.crimnet.state.mn.us/) have begun long term IT projects focusing on enterprise-wide integration. **For both, cross-agency justice integration is a key building block.**

Contemporary Technical Options for Integration

Just in the past five years or so, new integration options have started to become widely available which connect old "legacy" systems to newer systems and enhance such key system features as: availability (the ability to debug, repair, patch, and add new components without going "off-line"), capacity, predictability, and scalability (the ability to add new users and expand your integration to new systems). They can be combined with the three main types of existing architectures:

- **Consolidated systems** use a single centralized platform and centralized data storage. Typically, these are based on old mainframe systems.
- **Coordinated systems** are systems in which agencies' computers are connected "point-to-point" (individual systems connect directly to each other either individually or through a network connection). These systems require a separate interface between each computer and application.
- **Hybrid systems** connect individual systems so that they may share a common data exchange network. There may be a centralized name index, a shared data warehouse, or both. Most recently, some networked systems are being constructed on a web services model. Information can be queried and exchanged across a large number of systems using a common exchange language when this model is used.

Prominent technical models include:

- **The ISO or International Standards Organization Model (International Organization for Standardization, 2003a)**, also known as the Open Systems Interconnection (OSI) Reference Model, includes seven layers ranging from the physical to the application layer.
- **The TCP/IP or Transport Control Protocol / Internet Protocol** model regroups the ISO model into four layers going from the network access layer to the application layer.
- **The n-tier** model is a generic concept with many variants. It is the common assumption, however, that these layers have nothing to do with their physical location, and that you can

add as many tiers as meet your needs. In n-tier models, the first tier is usually the presentation tier – also known as the **graphical user interface (GUI).**

Prominent management models include:

- **The NIST or National Institute of Standards Model** (National Institute of Standards and Technology, 1998) identifies five layers. It is a management tool for both state and local governments that links together the enterprise business, information, and technology environments.
- **The CIO Federal Enterprise Architecture Model** (Federal Enterprise Architecture Working Group, 2002)has four basic layers, with eight components. Also designed as a management tool to include new IT innovations, it is organized in levels of increasing complexity (or "granularity") to provide different views from the perspective of planners, owners, designers, builders, and subcontractors.
- **The NASCIO Architecture Model** (National Association of State Chief Information Officers, 2002) provides a framework for defining standards as part of an architectural blueprint. It includes three frameworks (architecture governance model/framework, business, technology architecture frameworks). It has four levels, and is expandable to different views (system owner, builder, developer, segments, etc.).

New Technologies Timeline

2000s – n-tier and XML-Based Web Services

These are modular, "plug and play" applications which are separated into as many tiers as you need. They are "thin client" applications, often stored on complex, distributed systems. They allow the integration of independent, autonomous systems.

1990s – Three Tier Applications

This is a three-tier structure scaled to the Internet by adding a middle tier of servers. In this design business logic servers are separated from database servers. This design is more "scalable" and easier to maintain.

1980s – Client/Server Applications

This is a two-tier structure with small networks based on a "server" computer and personal computers (PCs). Applications are located on each PC (known as "thick client"), and a server allows the sharing of data or documents in an office. These are not scalable, because new hardware must be purchased in order to support an increased client load.

1960s & 70s – Consolidated Systems

These are the large mainframes where applications and data were all stored on the same machine managed by centralized IT departments.

Basic Agency-Level Building Blocks for Information Technologies

Management Information System (MIS)

Case Management System

Automated Court Systems

Document Management Systems

Records Management System (RMS)

Computer Aided Dispatch (CAD)

Enhanced 9-11 (E911)

Geographic Information System (GIS)

Crime Mapping Systems

Mobile Computing

Scope Determination

Basic Principles

Scope determination is the definition of project scope, including the authority for the project and the concept of operations.

While a scope statement may be derived from a strategic plan, it is a separate document that defines the project as a manageable "chunk" of the overall plan. The scope of the project is best determined through a team process that produces a written statement defining the purpose, authority, and boundaries of the project.

Purpose of a scope statement: The purpose of a scope statement is to: (1) ensure adequate authority to commence the planning and implementation process, (2) invest agency executives and other critical stakeholders in the process, (3) provide a focus for negotiations, communication, and consensus-building for the project, and (4) define the boundaries of the project. Through the process of developing a written agreement at the start, a scope statement fosters leadership accountability, establishes authority for planning, deters turf issues that may undermine planning and helps to ensure a common vision of what the project is to accomplish.

What's included: The products of a scope determination include a written statement of project authority and the concept of operations. For a small project, these may be contained within a single document. The statement of project authority authorizes inter-agency collaboration, while the concept of operations lays out the project boundaries, goals, and objectives at a conceptual level.

- **Project authority:** The scope statement should provide written authority for planning to ensure adequate resources (space, money, staff time, and support), and mobilize the appropriate stakeholders at an executive level. It should concentrate on "lead" agencies who will have direct access to the integrated data and it should define the expected governance authority. For larger projects, the authority for planning may need to be based on an executive order, an ordinance, or an inter-agency agreement such as a MOU or a JPA.
- **Concept of operations:** The concept of operations is a high level document that defines a project identity and outlines how the project addresses agency mission and goals. It is an overview of the project. It describes the existing system,

provides justification for a new system, and describes the proposed system and the approach for building it. The concept of operations document should also place the project in the context of the integration program of which it is a part (often defined in a strategic plan) and of other projects—past, present, and future—to which it is related, including failed efforts.

Tips and Resources for a Scope Determination

Deciding on a scope determination strategy is a fundamental decision. According to the Center for Technology in Government, jurisdictions have successfully defined their scope in one of three ways (Center for Technology in Government, 2000):

1. **Full frontal assault** – this is a broad integration effort involving all agencies, functions and levels of government accessible in a group of jurisdictions, which usually includes an overall coordinating and control structure with comprehensive integration objectives.
2. **Limited strategy** – this is a strategic choice of limited, strategic targets or objectives, usually done as part of a strategic plan. The immediate objective is chosen as part of a sequence of phased steps aimed at more complete integration.
3. **Limited objectives** – this is the ad hoc selection of a specific piece of critical, as-needed information sharing which is pursued for its own intrinsic value and is not directly or initially linked to a broad integration agenda.

The full frontal assault approach requires lengthy preplanning, while the limited objectives approach lacks an overall plan and risks interoperability hurdles (when various components do not fit well or efficiently). The limited strategy approach is probably the safest bet because it limits scope, but works toward an overall integration goal. It is a building block approach.

Apart from having a long term vision and trying to divide progress to that vision by way of measurable "chunks," there are no magic rules for deciding the size of the project. Size depends on a variety of factors.

Factors Affecting Project Scope

- **Agency and jurisdiction size:** Smaller and mid-size agencies and jurisdictions can sometimes take on larger projects more successfully than large metropolitan areas.
- **Planning starting point:** If an enterprise architecture has already been defined, it may be feasible to launch larger or more comprehensive projects: if the project is starting from a

pencil and paper system, however, project planning may need to take longer or start incrementally.

- **Technology starting point:** If a current system is being upgraded, the task can be done incrementally with less planning and risk; replacing a legacy system, on the other hand, is a relatively large project that requires migration planning.
- **Leadership attitude toward integration:** If agency executives or the jurisdiction's policymakers ignore it or view it only as a support function, it may take longer to develop the commitment and buy-in to move IT from a support to a strategic function.
- **Agency culture:** This includes the impact the IT project will have on the agencies involved, and how much resistance the project will encounter.
- **Jurisdiction's decision-making style:** In some jurisdictions an entrepreneurial leader may serve as a champion who provides critical impetus that jumpstarts planning, while in others, decisions are based on a long term rational decision-making process.
- **Interchangeability of resources:** Many jurisdictions find that funding is the most difficult resource to obtain. If outside funding is available, a more ambitious project is possible and a smaller one can be done more quickly. If there is a local opportunity that has already created the political will to integrate, the project may be able to use rapid application development to speed up the time frame for implementation.
- **Data and information needs:** The consensus may be that there is a need to simply share discrete information on an as-needed basis, or there is a need to develop a data warehouse to make inferences to a specific population for investigation or program and policy evaluation.
- **Technology choices:** The way in which a system is technically integrated determines the level of agreement needed among stakeholders. (In a unified system using a database, agreement is needed on all functional requirements, while a coordinated system where the design and architecture will follow agency lines using different platforms, applications, and operating systems will require agreement only on basic data structures and business rules.)

The goal of the scope determination process is to align the project and technical choices with agency missions. **Project scope is different from program scope.** A project is a short-term effort undertaken to create a unique product or service, while an IT pro-

gram is a group of projects managed in a coordinated way to obtain benefits not available from them individually. A project reflects a discrete "chunk" of the larger program, with a well-understood beginning and end. A program focuses on strategic change and is evolving.

Key Steps in Managing a Scope Determination

Scope determination should be done at the executive and policy-making levels. It is often helpful to ask executives and sponsors to take individual responsibility for specific areas by agreeing to lead task forces and workgroups. Deciding scope is a small group process involving agency executives, stakeholders, and policymakers. It can use in-house experienced facilitators or technical assistance of an outside facilitator.

The key scope determination steps include:

1. Define the overall vision, goals, and objectives for integration.
2. Pick a manageable "chunk" that has a measurable outcome within the larger vision, goals, and objectives.
3. Write a concept of operations document explaining the "chunk" and procedures for planning.

Managing the process: Tools for a scope determination include executive training, briefings, focus groups, and facilitated group decision-making. If agency executives are relatively sophisticated, a briefing may be adequate. Briefings can be supplemented by focus group activities to produce conceptual documents that will be given greater detail in workgroups. These focus groups should include both IT and non-IT participants and be selected for a diversity of outlook. Volunteer focus groups made up only of true believers should be avoided. Group activities may include development of a system map which shows how different stakeholder groups work together, or a flow chart that illustrates workflow processes. Alternately, if justice integration is a new concept, it may be helpful to encourage executives to attend training designed for policymakers offered by the National Governors Association, the National Association of Counties, the International County Management Association, or the Industry Working Group affiliated with the Department of Justice.

If there is no strategic plan, the process might start with a retreat that develops a sense of agency mission, goals, and objectives. If there is a strategic plan, then this can provide the focus for the team's efforts. The strategic plan will help identify the purpose and vision for the project and define the planning team. The project vision will state what the change looks like and how each agency fits into that change. The purpose will provide a compelling justifica-

tion of the need and an awareness of the technological opportunities that can improve the performance of the agency (or agencies) involved. Beyond making strategic decisions, facilitators for group decision making used to develop the concept of operations document should consider the decisions listed below.

Key Decisions for Concept of Operations Document

1. What are the data assets?
2. Who owns the data?
3. What are the architectural drivers and opportunities in terms of technology?
4. What current and target technologies should be considered?
5. How will this impact privacy and confidentiality?
6. How will this impact security?
7. What new risks should be anticipated?
8. What is the time frame for development?
9. How should the planning be organized?
10. How will agency executives, sponsors, and stakeholders manage the process?
11. How is the project related to other past, present, and future projects?
12. What is the relationship of this project to the overall IT program?
13. How will this project improve participating agencies' ability to perform their missions?

Scope Statement Checklist

The scope statement should answer the following questions:

Project Vision

_____ 1. What are the critical needs driving this project?

_____ 2. What is the clearly defined vision for this project?

_____ 3. How does this project's vision statement reflect the strategic mission and objectives of the enterprise?

Project Boundaries

_____ 1. How does this project fit into the strategic plan or other long term efforts?

_____ 2. Is this project divided into several phases of planning and implementation?

_____ 3. What are the specific boundaries of each phase of the project?

_____ 4. What is the intended impact of each phase of the project on current business processes?

_____ 5. What is the detailed scope of the first phase of this project in terms of goals, objectives, strategies, deliverables, and resources?

_____ 6. What is the time line for the project?

_____ 7. How is this project related to other past, present, and future projects?

Project Authority

_____ 1. What agencies are currently participating in the integration effort?

_____ 2. What other agencies are likely to be included?

_____ 3. What is the composition of the planning committee or board driving the assessment process?

_____ 4. Who is responsible for organizing and keeping a record of all meetings and decisions?

_____ 5. Is the authority for day-to-day decisions and resource allocation clearly defined?

Baseline Analysis

Basic Principles

The baseline analysis is the analysis of the existing technical architecture and business rules and the identification of gaps between the current situation and the concept of operations. Planning must be based on an understanding of the current system, including evaluation of its strengths and weaknesses. A baseline analysis defines the data assets and information flow that the planned criminal justice information system will be designed to improve.

The baseline analysis addresses the following questions:

- How is information currently managed by the agencies in the system?
- How is information shared both formally and informally within the information exchange system, as it exists?
- Who has access to this information and how is it used?
- What are the information technology skills and knowledge levels of managers, technical staff, and front line workers in the system?
- What is the organizational structure of the current system?
- What kind of organizational climate exists?
- What are major strengths and weaknesses in the system, as it exists?

The "As-Is" workflow, technology, and users are usefully represented by process maps. The "As-Is" Process Map is a visual representation of a process that illustrates:

- What activities are completed, by whom, and in what sequence
- Hand-offs between departments or individuals
- Internal and external operational boundaries
- Clear starting and stopping points

Integration initiatives have diverse starting points:

- A crisis or a high visibility event focusing the need to improve integration. (e.g., North Carolina became aware of the need to integrate after the crash of the American Eagle flight #3379 in

Raleigh-Durham in December 1994 (International Association of Chiefs of Police, 2000).

- Informal networking (Center for Technology in Government, 2000)
- Passage of enabling legislation
- Issuance of an executive order
- Receive a grant (e.g., ARJIS in San Diego in 1978, one of the oldest justice information systems in the country: see www.arjis.org)
- Recommendations from an outside consultant
- Conducting a user survey or needs assessment (e.g., the CICJIS system in Colorado: see www.state.co.us/gov_dir/cicjis/)

When the initiative is a response to a recognized problem, rarely is a systematic assessment conducted before a solution is proposed. A baseline analysis prevents the need to backtrack from solutions proposed too rapidly by first considering the following questions:

1. Can the process behind the problem be defined?
2. Does the problem occur frequently?
3. Is this problem well-known?
4. Is improvement of this problem critical to the basic mission?
5. Will it affect delivery of basic services to customers?
6. Is there a good chance of success in improving this process?
7. Is there anyone else working on this problem or process?
8. Can required changes be put into effect with IT?
9. Is this truly a process improvement effort that IT can help with?

When the initiative is a response to an executive or legislative mandate, a grant, or is otherwise initiated from outside the justice practitioner community, there is a danger that the project will be pushed ahead without buy-in from all necessary parties and without a common understanding of the need for it. A baseline analysis is a mechanism for achieving the common understanding necessary for project planning.

Conducting the Baseline Analysis

The goal of a baseline analysis is to describe the "As-Is" model for the criminal justice system. This model defines the structure and properties of the information system as it currently exists

without planned improvements. The "As-Is" model informs, feeds, and controls the "To-Be" model throughout the integration planning and implementation process. The "To-Be" model is the goal of the program or project. It is what the project is trying to achieve. The following are suggested key steps for conducting and managing a baseline analysis:

1. Specify the "As-Is" model

Conduct a comprehensive inventory of the current business and technology situation. This inventory should result in the collection of reliable and accurate data from the following core areas:

a. Current business processes and workflow

b. Existing technology infrastructure

c. Current interactions and data sharing between agencies

Business Rules and Process Mapping

Mapping business rules and processes are useful when formulating a baseline analysis. From a management standpoint, it is a good idea to understand the difference between tools for mapping business rules and tools for process mapping. They are quite similar, and they can be confusing because it is possible to use process maps to develop business rules and vice versa. They differ in purpose. Process mapping is a sophisticated management tool, while business rules mapping is designed to identify the rules for sharing information. There are specialized approaches to do both, and each is really a family of interrelated tools.

Process mapping can also be viewed as part of a management cycle of continuous improvement. For example, beginning with the process gap, there follows gap awareness, process evaluation, cause determination, solution identification, solution implementation, and process management. There is a family of process mapping tools used to illustrate a process. Each has a different purpose – to diagnose a problem or condition, to provide a critical assessment of what really happens ("as-is" vs. "should be" vs. "could be"), to compare with requirements, and to educate or communicate the nature of a process or competitive gap.

Business rules mapping is also a family of tools. The key difference between process mapping and business rules is that business rules govern information processing, not your workflow. In developing business rules, the incremental paper trail is not a good model for understanding how information is shared. For example,

Uses Of Process Mapping

- Identify how your agency's core processes interrelate and affect one another
- Improve cross-functional communication with other agency units or agency partners
- Identify root causes of problems
- Simplify or streamline process workflows
- Eliminate entire steps in your processes
- Locate process flaws that create systemic problems
- Identify activities that add value to the outcome or to the customer
- Identify non-value added activities and tasks
- Identify processes that need to be reengineered
- Identify opportunities to reduce costs or inefficiencies

in terms of courts, paper files have a "practical obscurity"[1] because of the need to have a physical presence in the court house compared to electronic files. Case files can contain sensitive information, such as medical records, employment records, detailed financial information, social security numbers, and other personal identifying information. Providing easy and unrestricted access electronically changes the rules and can compromise privacy and increase risk, especially since information on third parties may be contained in these files.

Business rules mapping can be viewed as identifying information exchange points. This will include documenting the event triggering the information exchange, the agencies involved, the information that is exchanged (documents, data sets, specific data elements, images, video, etc.), and the exchange conditions (when and under what conditions). Once identified, these may be written as procedures (e.g., legal time frames, etc.), as administrative (what one agency is required to do), or as technical requirements (technical content for electronic exchange). When these rules are automated, you can then look at them in terms of agency-centric (all exchanges from a particular agency), information-centric (all information around a particular report or involving a particular data set), or event or exchange-centric (all information around a particular event).

There are a variety of modeling tools available for identifying business rules. An emerging model for identifying justice exchange points is the Justice Information Exchange Model (JIEM) developed by SEARCH (SEARCH, 2000).

2. Identify areas that need improvement, prioritize the most critical needs, and specify where gaps and problems currently exist.

- **A process gap:** This is when there is a gap between the "As-Is" versus the "To-Be." Improvement may reduce cycle time or eliminate systemic problems.
- **A competitive gap:** This is when there is a gap between your agency and other, similar agencies – e.g., a benchmark or a best practices gap. The gap demonstrates that improvement is possible. Closing the gap may require redesign of processes, often referred to as "business process reengineering" by looking at new ways of organizing tasks.

By reviewing and analyzing the "As-Is" model, the areas most in need of improvement can be identified. This is done by locating information-sharing and process gaps, duplication of efforts, and

[1] The Supreme Court used this phrase in *U.S. DOJ v. Reporters Committee for Freedom of the Press 489 U.S. 749 (1989)* case to refer to the relative difficulty of gathering paper files.

data exchange delays. Once all problem areas have been identified, the most critical needs can be identified.

3. Write a report detailing the results of the baseline assessment and distribute the report to your agency executives and stakeholders.

While an assortment of individuals should be involved in conducting the baseline analysis (managers, supervisors, information officers, operational staff, line users, etc.), it is important to ensure that the resulting documents are given to the appropriate stakeholders. This information will prove invaluable to those individuals who are in the position to drive the integration project forward as they endeavor to build a successful business case for integration.

Baseline Analysis Checklist

The Process

_____ 1. Has a representative group of stakeholders, information providers, and information users participated in and contributed to the baseline analysis process?

_____ 2. Has the needs analysis included the views of stakeholders, information providers, and information users in the system?

_____ 3. Has the analysis been widely disseminated? Has it been formally presented at stakeholder organizations and user groups?

Components of the Analysis

Does the baseline analysis include:

_____ 1. A description of the IT systems currently in use?

_____ 2. A description of the organizational structure of the current system?

_____ 3. An assessment of the technology skills and knowledge available in the current system?

_____ 4. A description of the current system's data assets?

_____ 5. A description and mapping of the current system's business rules?

_____ 6. A description and mapping of the current system's workflow processes?

_____ 7. A description of important problems in the current system?

_____ 8. An identification of major strengths and weaknesses in the current system?

_____ 9. A description of other current and planned efforts to effect change?

_____ 10. A description of current legislative and legal (e.g., court orders) imperatives and restrictions?

_____ 11. A description of available financial resources?

_____ 12. A description of currently available technical options for IT integration?

_____ 13. A description that is comprehensible to the non-technical reader?

Project Planning

Basic Principles

Project planning involves the definition of the "To-Be" model and the plan of action that applies resources to address needs and solve problems based on agency priorities. Project planning is part of strategic planning. Strategic planning aims at fundamental, long-term change based on analysis of the existing environment. It envisions, implicitly if not explicitly, a series of projects delimited in time and purpose.

Each project executes a part of the strategic plan. It goes beyond a written statement of the vision, mission, and goals to provide a guide to implementation by identifying concrete strategies, tactics, activities, and key resources. As such, it will incorporate technical system life cycle planning as well as project management, risk management, privacy impact, and so forth from an executive level. Action planning is a way to link together a sequence of milestones (tactics, accomplishments, events, activities) that mark success by assigning target dates and responsible task leaders.

The fundamental principles of planning apply whether a strategic plan or a project plan is being developed. Key steps in planning include:

1. **Articulation of vision.** The vision shows what success looks like. It is a mental image that challenges and inspires.

2. **Definition of mission.** The mission statement includes the purpose, a statement of the primary business processes, and the values which provide the foundation for how the services are delivered.

3. **Statement of outcome goals.** Goals should be outcome-oriented and reflect the overall vision and mission.

4. **Operational definition of individual goals.** Goals should be operationalized based on the "As-Is", so that they can be tracked on a regular basis and measured using performance measures. This will include developing appropriate benchmarks.

Are Your Agency's Interests the Same as Commercial Vendors?

Some Questions to Consider:

- Is your agency seeking to develop a marketable product or does it have a public purpose?
- Is what you do primarily concerned with reuse (selling one product many times as a way of increasing profit) or do you have other mission-defined outcomes and goals?
- Is your IT budget based on "planned obsolescence" as a business strategy or are you averse to the risk of using expensive new technologies?
- Will your problems be solved by creating relatively small, standalone systems or do you need to integrate with other systems?
- Will you be completely satisfied by commercial, off-the-shelf (COTS) solutions or do you need special purpose or more robust systems?

5. **Determination of strategies.** Strategies are a framework that provide guidance for actions. Strategies should align priorities with resources to maximize success.

6. **Development of the action plan**. An action plan links objectives to specific steps, identifies the person responsible, provides a timeline, and indicators of successful accomplishment of that task. This could include specific aspects of the project such as mapping the information exchange points, development of the data codebook, conducting a privacy impact assessment, training, marketing, defining the enterprise architecture, and so forth.

7. **Development of a project work breakdown structure**. A work breakdown structure divides each step into specific, numbered tasks and subtasks, and considers dependencies among these tasks by providing a calendar-based visual representation of the timeline assigned to each task and subtask.

Planning Guidelines

1. Planning should involve senior agency professionals.

It is critical that the planning process involve senior professionals within each participating agency, ideally through project leadership roles.

- While planning an integration project does require mastering some technical knowledge, it is often easier for a justice professional to gain IT "sea legs" in leading IT projects than it is to count on IT professionals or outside vendors to invest themselves in learning enough about the criminal justice area and each agency's operations.
- The goal of integration is to move the use of technology from a support activity to a strategic function within the agency. Only justice professionals who are steeped in the practices of their agencies can define the proper scope and goals for an integration project.

A key goal is learning how to work with technical staff – agency staff and outside vendors. Because there is a great deal of turnover among IT agency staff, one of the critical challenges of integration is ensuring that control of the IT project remains within the agency. "Vendor capture" can happen when a commercial company redefines agency needs – often based on what they have to sell. The problem in many IT project failures is not what criminal justice professionals don't know about technology, it is what IT vendors don't know about the criminal justice field, its information needs, and its business processes. Whatever experience vendors bring to the integration effort, their interests are not likely to be the same as the agencies' because vendors maximize their profits by reusing existing commercial off-the-shelf (COTS) solutions for as

many customers as they can – even if the software solution does not precisely meet the needs of a particular situation.

✓ **TIP: Check out the Information Technology Resource Board's Risk Assessment Tool for COTS Solutions.** (Information Technology Resources Board, 1999. www.itrb.gov)

2. The planning should be a stakeholder-driven, team-based process.

The planning process should be broad and team-based. Traditional planning can be done by a managing supervisor or a small management team. Team-based planning does more than plan:

- It builds **critical capacity**. Staff turnover will be inevitable over the life of a multi-year initiative. To avoid loss of institutional memory, vision, and leadership, as well as the intangible elements of trust and relationships, a broad-based planning process is key.
- It maximizes **change management** and increases support for integration by building synergy.
- It **leverages information** best known by the operational staff. Team-based planning builds on existing lines of communication at the agency-level or cross-agency levels.

3. The plan should be standards-based.

The current industry trend is to develop open standards so that information can be shared without extensive reprogramming. Many of these standards are currently in development, and there are parallel and competing efforts. According to one report, this is best described as a hodgepodge of initiatives because there is no recognized authority or proven process for standards (Threatte, 2001).

Types of standards include:

- Technology industry standards for hardware and software
- Professional standards developed by disciplines, such as research methods for data analysis, performance standards for juvenile detention, etc.
- Functional and process standards developed for specific areas like law enforcement, courts, etc.
- National standards for data representation in justice such as LegalXML, the JusticeXML Data Dictionary(JXDD) and Schema(JXDDS), and the Interstate Criminal History Transmission Specification.[2]

[2] The Organization for the Advancement of Structured Information Standards (OASIS) is a not-for-profit global consortium that drives the development, convergence, and adoption

Types of Technologies

Emerging technologies are either under development or are recently released that are expected to become industry standards.

Current technologies are the present standards.

Twilight technologies are in use, but are not optimal solutions.

Sunset technologies are in use, but will be phased out because they do not conform to the current technology architecture plan (NASCIO, 2002).

- Management standards like the Baldridge Business Criteria (Baldridge National Quality Program, 2003), the Software Engineering Institute's Capability Maturity Model (Paulk et al. 1993), or the ISO 9001 Performance Criteria (International Organization for Standardization, 2003b).

It is helpful to think of standards as providing guidance – like best practices that have received wide approval. Some standards are developed by professional groups and some are developed by governments. Standards differ from regulations. Regulations are written into law as mandates.

Most states and many larger metropolitan areas have developed their own standards by writing an architecture blueprint to guide IT development. NASCIO has produced a toolkit for this purpose (National Association of State Chief Information Officers, 2002). One of the first tasks in planning is to identify these state and local blueprints if available, or if they are in the process of being defined.

Standards are helpful when issuing a request for proposal (RFP). Vendors develop their proposed solutions based on these standards and can be held accountable for their performance. Since this is most appropriately done at the jurisdiction level – federal, state, county or municipal, local agencies should include stakeholders from these levels to ensure that projects reflect emerging standards that reflect reporting requirements and encompass larger jurisdictions.

Three Laws of the Rapidly Changing Technology Horizon

Moore's Law: CPU performance doubles every 18 months.

Bandwidth Scaling Law: Bandwidth is doubling even faster.

Metcalfe's Law: The value of a network grows exponentially, quadrupling every time the number of users is doubled.

4. Planning should be open to evolving justice needs.

Successful use of technology is optimized when the technology is aligned with the programmatic purposes and activities of the agency. For this reason, designing integration projects must include emerging and best practices to law enforcement, courts, and other justice agencies. This means understanding how each agency's work is moving beyond report writing to strategic management, beyond routine law enforcement and practice to intelligence, and how each agency is now using information as an asset. What are some of these evolving needs? In setting objectives, it is necessary to define what change drivers are important for each agency and consider new justice trends in approaches to law enforcement and public safety. Nationally, some key justice trends that impact IT projects include those listed below.

of e-business standards, including LegalXML (http://www.oasis-open.org). Information on the JusticeXML and the Interstate Criminal History Transmission Specification are available at: http://www.search.org/xml/initiatives.asp.

Key Justice Trends

- Service expansion – justice agencies work with communities, victims, offenders, and providers (e.g., domestic violence, drug courts, community oriented policing, etc.).
- Increasing public interest and statutory mandates in accessible information about victim and public notification in terms of convictions, sentencing, case status, and feedback (e.g., victim notification).
- Stakeholder expansion – collaborating with a broader array of other agencies, including schools, social service agencies, and treatment providers (e.g., safe schools/healthy students).
- Increasing partnerships with other jurisdictions – including statewide agencies and regional partnerships.[3]
- New uses for information and intelligence—including reorientation of law enforcement to address terrorism, and the value-added nature of using data for investigating, analysis and problem-solving.[4]
- Efforts to develop national standards for data representation and transmission. (See item 3 on page 29.)

5. Planning should incorporate the rapidly evolving technology horizon.

Incorporating the rapidly evolving technology horizon requires identifying emerging technologies. One way to do this is to break available technologies into categories. For example, flat file databases are twilight structures, while relational and object-oriented databases are current and emerging technologies.

In making decisions it helps to understand the nature of technologically-driven risk, therefore it is important for an agency to:

- Capitalize on new technology options without taking chances.
- Adapt to the much shorter time frame of the technology horizon within the longer planning time frame in public agencies.
- Understand that marketing changes driven by the commercial sector can also create risks as well as options.

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[3] Florida's CJNET (http://www.fdle.state.fl.us/publications/tech_success_stories/cjnet.htm) and Pennsylvania's JNET (http://www.pajnet.state.pa.us/pajnet/site/default.asp) are examples of increasing partnerships with other jurisdictions on a statewide level. Examples of regional partnerships include San Diego's ARJIS (http://www.arjis.org/) and Washington, D.C.'s CapWIN (http://www.capwin.org/).

[4] An example of the integration of isolated databases is the COPLINK project, funded by NIJ and developed in collaboration between the Tucson Police Department, the Phoenix Police Department, and the University of Arizona Management Information Systems Artificial Intelligence Lab (http://ai.bpa.arizona.edu/go/intranet/papers/p28-chen.pdf and http://www.knowledgecc.com/index.htm).

✓ **TIP: When investing in technology your best bet may be a "safe bet". Newer, immature technologies may take more time to implement and debug than anticipated.**

Planning should explicitly seek safe bets for capitalizing on new options. Without specialized source code written just for your system, legacy systems lack interoperability. It is no longer necessary to think in terms of large, centralized systems which need to meet all of the functional requirements of all the participating agencies or jurisdictions. Safe bets include long term planning for hybrid systems which include data warehouses, data marts and web services models. These architectures have become increasingly complex with the introduction of many different types of data warehouses designed for different types of purposes (program evaluation vs. fact-based transactions like checking criminal history), subjects (e.g., gangs, intelligence, traffic), and needs (real-time data vs. batch systems). Some data warehouses have become so large or complex that they can no longer be queried or analyzed manually and data mining software tools become part of the new portfolio of IT technology options. Without a research and development approach (like the approach used by COPLINK in Tucson), data mining, as developed for uses in commercial applications, is a more immature technology for investigation.

Planning should seek safe bets for adapting to the technology planning horizon. Exponential increases in speed means that equipment can become obsolete in less than two years. One way IT planning can avoid obsolescence is by using new management techniques to narrow the scope of the project so that concrete "building block" goals are reached in as short a time frame as possible, while ensuring that the current project fits into a long term IT plan that is technology-independent. This uses the "plug and play" modular development within an overall strategic plan. For example, instead of using the comprehensive system development life cycle model, where requirements are developed step-by-step and prior steps are not revisited, newer approaches use the spiral development model for technology alongside strategic planning. Another suggestion is to consider adopting new approaches to procurement that allow you to manage custom applications with less up-front financial risk. However, some of these innovations are new, and it is not yet certain how they save costs over the long term.

New Approaches to Procurement

- E-procurement
- IDIQ (Indefinite Delivery, Indefinite Quantity approaches
- Public-private partnerships that change your relationship with vendors
- Outsourcing or pay-as-you-go through use of application service providers (ASPs)

✓ **TIP: Check out the Center for Technology in Government's *A Survey of System Development Process Models*** (Center for Technology in Government, 1998. http://www.ctg.albany.edu/publications/reports/survey_of_sysdev).

Most Common Causes of Court IT Project Failure

Ranking	Factor	Percent
1	Unclear scope or requirements	**25**
2	Weak court leadership	**23**
3	Inadequate project management	**14**
4	Project scope too large	**6**
5	Unrealistic funding expectations	**8**
6	Capacity of court IT staff	**7**
7	Inadequate infrastructure	**4**

SEARCH, 2001. The rankings included both vendors and court leaders.

✓ **TIP: Check out the *Integrated Justice Information Systems Guidelines for Procurement*** (Integrated Justice Information System Working Group, 2000. http://www.ijis.org/library/products.html).

Find safe bets for understanding the marketing changes. Changes in the commercial marketplace also affect the technology planning horizon. New technologies create instant business opportunities. New types of firms now offer services to justice agencies. In 1999-2000, new types of firms – the dot.coms, and the ASPs have entered the justice marketplace focusing solely or primarily on the "front-end" of providing services to citizens. Although the market will continue to diversify, one way to avoid risk is to seek partnerships between these newer providers and more traditional "back-end" systems integrator firms.

✓ **TIP: Check out Gartner Dataquest's *State and Local Government Market, 2000 Through 2005*[5].**

6. Planning should be conducted with the "enterprise view."

The "enterprise view" is important because integration means connecting organizations electronically. This is a different type of reorganization. There are two ways to understand the "enterprise view."

[5] Gartner, Inc is a worldwide research and advisory firm that was founded in 1979. Its businesses include research, consulting, measurement, events, and executive programs (www.gartner.com).

How E-Filing Changes Business Rules

A number of courts have insisted that electronic filing systems exactly duplicate the characteristics of current paper systems. An example is the affixing of a clerk's office file stamp on an electronic document. Some courts have required that an electronic filing application add the text for a file stamp — showing the name of the court and the time and date of filing — in the top right hand corner of an electronic document. This is an artificial requirement in an electronic world. It also creates a conflict in requirements for electronic filing systems – requiring that documents not be alterable on the one hand and that they be alterable to include a time stamp on the other. The functional equivalent of a file stamp can be created electronically through a separate electronic record linked to the filed electronic document.

Source: National Center for State Courts, 2002.

- One is actual applications that are enterprise-wide (e.g., financial management, human resources, procurement).
- The other is information sharing between agencies where information remains in separate applications in different agencies (courts, police, etc.).

To the degree that information is shared, organizations are virtually combined. Understanding what this means to citizens and customers is called the "enterprise vision." One common goal is the sharing of information, twenty-four hours a day, seven days a week, seamlessly, horizontally, and vertically across systems and across jurisdictions according to pre-established rules embedded in digital communications. For example, the CIO model describes the entire federal government as a single "enterprise" composed of many segments. At state and local levels, however, justice is a complex landscape – over 19,000 state and local law enforcement agencies, over 17,000 courts, over 3,000 local jails, and over 1,500 state and federal prisons. When extended to the public safety community (fire fighters, rescue and EMS providers, and health and human services providers), the vision expands. It also becomes more complex. In many states, courts, prosecutors, sheriffs, schools, and executive branch agencies are separately elected, and many treatment providers are private sector entities. For this reason, the "enterprise vision" is most important when looking at the front end – viewing how services are provided to citizens, particularly in responding to critical incidents and providing public safety across jurisdictions. Developing an enterprise vision is usually a first step in developing collaborations, especially in writing memoranda of understanding and establishing new governance agencies to administer information sharing initiatives.

7. The plan should be narrow in scope.

Starting with too large a scope can be fatal to successful integration. While integration as part of a large plan can have large goals, the basic principle is that integration projects should have a narrow scope. In addition to the problem of technical obsolescence discussed earlier, it is good to have small successes, and then build momentum for future efforts. According to "Raines Rules" (Raines, 1996), defined for the federal government to implement the Clinger-Cohen Act, a good rule of thumb for keeping scope narrow is to divide the long term integration goals into chunks. These "chunks" should be brief in duration, so long as each part:

- Solves a specific part of an overall problem.
- Delivers a measurable net benefit independent of future chunks.

How Reengineering Requires IT

The Lakewood, Colorado, Police Department used IT to reengineer its response to domestic violence calls. By looking at their workflow using process mapping, they found three areas of needed change: more information for officers responding to calls, more victim services, and too few successful prosecutions. To provide more information, the department developed a domestic violence offender registry to track batterers from one metro area jurisdiction to another, developed alerts for their CAD system containing information of problem addresses where a known domestic violence offender had used a weapon or resisted arrest, and worked to develop links with mobile data computers in patrol cars.

Source: 21st Century Mapping Project, Police Executive Research Forum (PERF)

8. The plan should recognize the changes in business rules and workflow that IT integration makes possible.

IT may mean new ways of doing work for three reasons:

1. The information flow is not the same as the case flow—IT projects change **business rules**.
2. Information is now more available in real time. This allows your agency to work more closely with others—IT projects often require redesign of **workflow processes**.
3. Job responsibilities and needed skill sets shift. IT projects require **change management** for success.

Business rules. IT affects the rules for how information is shared. When information is automatically shared rather than depending on the judgment of an individual, the business rules for sharing must be formalized so a computer can administer them. There are a variety of questions that need to be resolved in an IT project, such as: what defines a legal document, what defines data ownership, and what are the standards for questions of privacy, confidentiality, and security (including legal liability for errors or inappropriate uses of electronic information). Agencies need to carefully consider business rules for information sharing, and how the project changes what has been informal practice. These informal practices need to be identified and explicitly acknowledged.

Information sharing resistance may be especially acute in the criminal justice environment, where "need to know" is often the guiding and default principle. Major changes in assumptions and attitudes are often necessary for effective information sharing in such an environment.

Workflow processes. IT can change both the speed of work and how the work is done. A process is simply the steps and decisions involved in the way that work is accomplished. In considering workflow, IT reduces cycle time— the amount of time it takes to fulfill commitments or to complete tasks. This can result in incremental increases in speed and efficiency. However, capitalizing on the benefits of IT can mean new ways of doing work known as process management and reengineering. The term "reengineer" is a term of art. It simply means that information shared electronically can follow new and different paths from those developed by sending paper documents. When used to "repave the cow path," IT and the Internet just amplify current processes. When used to change how work is done, IT and the Internet can add new information and radically improve public safety and justice outcomes. As the business sector learned in the 1990s, justice agencies planning an integration project must consider how technology aligns with their basic work.

9. Timelines should be realistic and achievable.

Timelines and the setting of dates for stages of project completion should be driven by what is practical and achievable rather than by an artificial deadline. Factors often not adequately considered in determining time lines are:

- Adequate time for governmental approval of RFP's, contracts, and purchasing authorization
- Time for hiring new staff, including advertising, interviewing, testing, and bureaucratic approval processes
- Time for training both staff and new users of the system
- Time for problems: management mixups, disagreements, technical problems, personnel turnover, etc.

There are many inexpensive project management software tools now available that can assist in estimating completion dates for each part of the project. These tools account for contingent tasks, i.e. tasks that can only be completed after another task or tasks have been completed. These modeling tools can be used to recalculate time lines as the project proceeds based on changes in plans or timing of its parts.

The RAD Method

Timelines vary considerably. For an integrated information system using a comprehensive planning approach, mapping the business rules can take two years. Another quicker option is a rapid application development (RAD) method. The RAD method includes the following four key elements:

- **Scoping of the project** ensures that the effort focuses on what is most important to ensure early, visible evidence of progress, and on areas likely to produce well-defined outcomes.
- **Sustained, intense effort** can produce results quickly. These results can later be tested, refined, and improved iteratively using a spiral rather than a waterfall (logically sequenced) approach. The purpose here is to produce a complete set of models that comprehensively addresses the range of outcomes.
- **Strict time management** using "time box" techniques means defining the specifications as the measures are prototyped, which ensures that all stages in the process are completed in a timely fashion.
- **Low overhead decision-making criteria** allows decision points to be addressed quickly. For example, this can be accomplished in simple projects by having all managers in the room, and making decisions on the spot. In larger efforts, this

can be accomplished by use of a project advisory group and by using the products of other, related projects.

Project Planning Checklist

The Planning Process

_____ 1. Has the planning process involved senior agency professionals?

_____ 2. If the planning process has relied on vendors for leadership,

_____ • Have a variety of vendors been considered for the task?

_____ • Has there been a careful process of vendor selection?

_____ 3. If COTS (commercial off-the-shelf) solutions have been chosen,

_____ • Have a wide variety of COTS solutions been considered?

_____ • Have non-COTS solutions been carefully investigated?

_____ • Have the costs and time for customization of the COTS solution been included in the plan?

_____ 4. Has the planning process involved all important stakeholders:

_____ • Information-provider agencies?

_____ • Criminal justice user agencies?

_____ • Non-criminal justice user representatives?

_____ 5. Is the plan based on standards?

_____ • Criminal justice date exchange standards?

_____ • Technology industry standards for hardware and software?

_____ • Criminal justice document standards?

_____ • Management standards?

_____ 6. Did the planning process include review of existing best practices in relevant areas?

_____ 7. Did the planning process review possible areas of service expansion beyond current services?

_____ • To new criminal justice uses or users within the jurisdiction?

_____ • To criminal justice agencies in other jurisdictions?

_____ • To non-criminal justice governmental agencies?

_____ • To the public?

_____ 8. Did the planning process take as wide a view as possible, i.e., was it conducted with the "enterprise view" whenever possible?

_____ 9. Did the planning process focus on limiting project scope to accomplish a short-term net benefit?

_____ 10. Did the process result in defining a clear, measurable benefit from the project?

_____ 11. Did the process address changes in business rules and workflow that would be required by the project?

_____ 12. Did the process address improvements in business rules and workflow that the project would make possible?

_____ 13. Did the process allow for possible delays and complications that could affect completion dates?

_____ 14. Did the project employ a project management tool to estimate time lines and account for contingent tasks?

The Plan

The written plan answers the following questions:

Conceptual and Logical Design

_____ 1. Who (which agencies and jurisdictions) will be connected to the new integrated system?

_____ 2. When and how will connectivity be established?

_____ 3. What data will be shared with each agency?

_____ 4. What are the data exchange points and the business rules governing these exchanges?

_____ 5. Will a data dictionary be established to allow common identifiers for processes, events, individuals, and conditions?

_____ 6. Which current business processes will need to be reengineered to accommodate the new integrated system?

_____ 7. What sort of training will be required to facilitate the transition to the new integrated system?

_____ 8. Are time lines realistic and achievable?

Infrastructure and Architecture

_____ 1. How will data be stored? Central warehouse or several databases?

_____ 2. How will legacy system data be integrated?

_____ 3. What are the database needs for your integration architecture?

_____ 4. What contemporary technologies will accommodate your functional requirements?

_____ 5. Will legacy systems be replaced or accommodated?

_____ 6. What are the technical requirements for connectivity?

_____ 7. What is the time schedule for constructing the new system?

Policies, Practices, and Standards

_____ 1. What standards and principles will govern information exchange?

_____ 2. How can you best incorporate standards into the integration project?

_____ 3. Which standards (local, state, federal, professional) will you incorporate into your new integrated system?

_____ 4. Which technical, functional, and data standards will be implemented?

Security, Privacy, and Confidentiality

_____ 1. How will authentication and authorization be addressed?

_____ 2. How will agency autonomy be respected?

_____ 3. How will you address data ownership?

_____ 4. How will you address public access to data?

_____ 5. What issues of privacy and confidentiality must be defined?

_____ 6. How will you ensure data integrity and accuracy?

Implementation and Impact Assessment

Basic Principles

An important part of project management is the ability to measure and demonstrate results: progress in implementing the project, impact on agency goals, and return on investment. The implementation and impact assessment is the plan for measuring project progress and success that helps to justify outcomes to stakeholders and sponsors.

Increasingly, governmental appropriations for projects come attached with requirements for reliable measures of performance. These measures are an essential part of the information feedback loop that drives organizational change in quality management strategies.

The "Catch 22s" of IT planning revolve around the problem of turning the vision of integration into measurable outcomes. Everyone knows that new technologies will provide more efficiency. Everyone knows that programs will be more effective. This is the vision of integration. Demonstrating this is not a simple process, however.

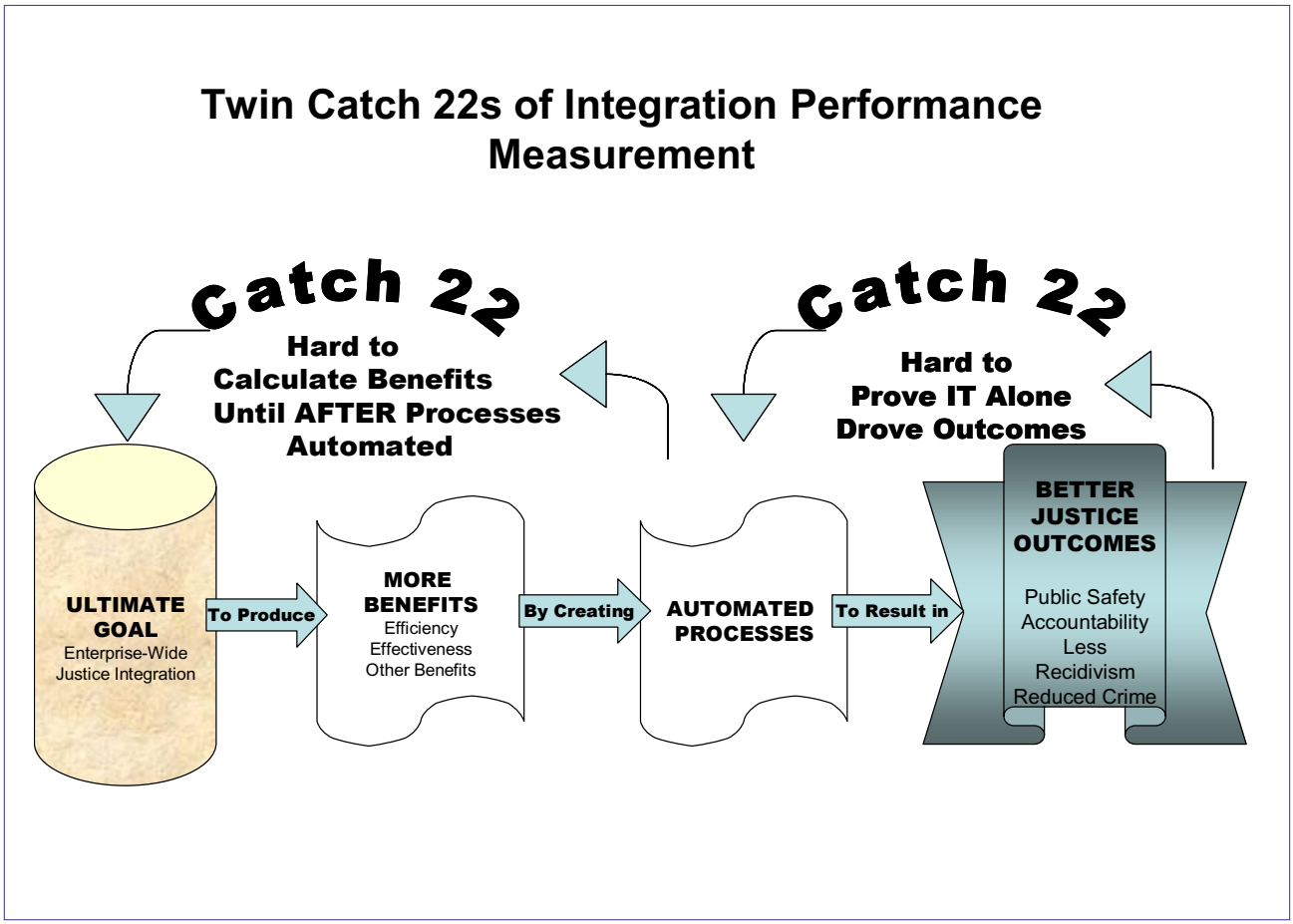
1. To demonstrate results requires tracking progress towards goals at different stages of the project.
2. Cost-savings from reducing duplicate data entry are hard to realize (e.g., fixing incomplete and outdated information on individuals, incidents and cases may pose new or additional costs if these data must be added or reconstructed from old paper files).
3. New technologies are expensive – the need to constantly update means that IT is an ongoing rather than a one-time investment.
4. While the enterprise view stresses shared data, the costs are borne by the agency that creates the data.

The first "Catch-22" is that until workflow processes are reengineered to take advantage of integration, most of the benefits of integration will not be realized. Without a reality-based scenario that a valid assessment can provide, planning will lack long term buy-in and support for long term funding as the results are phased in.

The second "Catch-22" is that it is hard to prove that improved outcomes, like public safety, reduced recidivism and crime, are

caused by the IT project. These outcomes may be much more strongly affected by external factors, such as the economy, demographic changes, and even outside events like 9/11. Without a focus on evaluability and accountability that a valid impact assessment provides, planning will fail to align needs with technology tools that are capable of producing results.

Completion of an information project assessment will help define what the measurable outcomes are, and how they can be used to track progress and demonstrate results—which are critical elements to building consensus and momentum for realistic progress toward project goals.



Complex Objectives are Measurable Using Logic Models

One management approach for the measurement of results is to use logic models. Logic models link together program resources, activities, and results that happen over a period of time. The logic model tool is used to define standard types of measures so that you can track outcomes.

Inputs are the resources used to create the program or initiative. In IT projects, this might be the new hardware and software or new components or devices.

Activities are the events or new capabilities created by the program. Activities are measured by process measures. In IT projects these are often expressed in the functional requirements.

Outputs are the immediate product of an activity and can be expressed as a count. In IT projects, this could be as simple as the number of hits your website receives.

Outcomes are not what the program or initiative itself does, but the consequences of the program/initiative efforts—changes in conditions, attitudes or behavior of individuals or outcomes for agencies and communities. Outcomes happen over a period of time and can be further divided into short term, intermediate, and long term outcomes. In IT projects we can think of two types of outcomes—the outcomes that illustrate how the new system changes your work, and the long term justice outcomes like increased public safety.

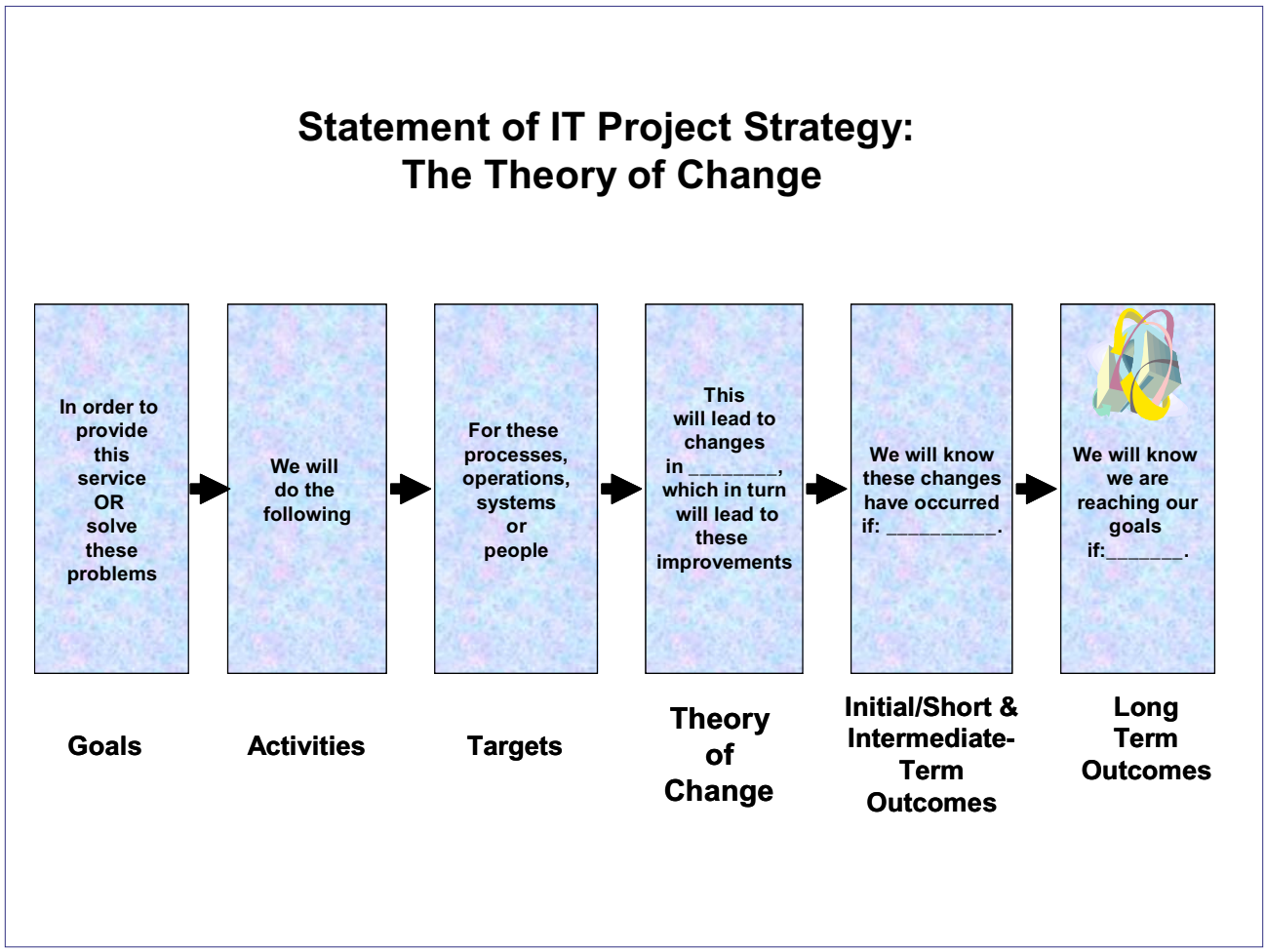
Prioritizing the most important needs and outcomes will require the project team to decide what the current stage of integration is and fit long term goals into the overall strategic plan. Next, the team will need to specify the steps in which the IT program activities are linked to program outputs. This "theory of change" approach can be used as a tool in a focus group format. Competing theories are brought forward and discussed to build consensus over project goals, project implementation, and how activities are linked together.

It is critical to define a range of output and outcome measures and to be realistic in how these are implemented. When outcome measures are drawn from routinely collected data they provide accountability for managing as well as for planning and evaluation. For IT projects, there are four main types of performance measures:

1. **System performance measures** tell how well the system is performing. If your system is immature, it will be difficult to have any measurable impact on your core agency processes.
2. **Process measures** tell you how well the implementation is proceeding. Some of these are defined in specialized project management or systems life cycle methods.
3. **Output measures** tell you the immediate products of your system. Defining these are important to build the logic model and measurable objectives.

4. **Outcome measures** are a family of measures. They are measured over a period of time and represent short term, intermediate, and long term outcomes.

While there will typically be general agreement on long term outcomes, it is important to take the time to work out how this IT project is expected to produce impact by defining the short-term and intermediate outcomes that will drive changes in long term justice outcomes. This is usually done in a facilitated focus group by starting with the end-outcomes first—the ones that reflect core processes and agency mission. Then, using a facilitator, the team works backwards to identify the more near-term outcomes. Because there will be disagreements over defining the near-term outcomes associated with the project, one of the focus group results will be multiple models stating different strategies or theories of change. Part of the facilitation process will be to work to reconcile these models. When this has been done, there will be agreement on the project or program theory of change.



Planning for After-Project Accountability

Institutionalizing accountability for the project outcomes after the project is completed is an important step in the assessment process because it helps to ensure that the project continues to deliver its benefits over the long term.

The key accountability steps include:

1. Define the outcome, impact, fiscal, legal, and reporting data collection needed for:
   - Agency accountability
   - Stakeholder and sponsor accountability
   - Community and citizen accountability
2. Define the reporting system schedule and content for accountability.
3. Assign management and leadership responsibility for:
   - Security management accountability
   - Risk management accountability
   - Privacy and confidentiality management accountability
4. Develop a plan for collecting additional impact measures if necessary.
5. Decide how often the impact evaluation will be conducted.

Tools for Accountability

There are a variety of tools available for providing accountability for both stakeholders and the community. Customer satisfaction can be measured in surveys of either the public, or of those who use each agency's services. Other methods include well established methods for calculating costs and benefits, including traditional cost-benefit analysis which uses dollar amounts for both, and cost-utility and cost-effectiveness analyses, which use dollar amounts only for the costs. Cost-utility analyses have points attached to desirable outcomes, while a cost-effectiveness analysis calculates the cost for achieving a specific goal. For IT projects, a new method uses information economics that includes both business and technology domain factors using a weighting system where points are assigned so projects can be compared for their return on investment (ROI) and their risk to the organization and technology.

Input data will include a range of measures that reflect how the project and program align with legal standards, fiscal standards, reporting mandates, service fidelity, program coverages, cost-benefit analyses, and assessments of technology investments.

Since the results of an integration project will emerge over time as business processes are reengineered and workers adjust to new capacities, impact assessments should be performed repeatedly over time. These reassessments may involve new or modified measures based on experience and information available from new sources.

Implementation and Impact Assessment Checklist

_____ 1. Have the goals of the project been defined and related to the missions of the agencies involved?

_____ 2. Have project milestones been defined?

_____ 3. Are the milestones measurable and verifiable?

_____ 4. Have all the outputs of the project been defined?

_____ 5. Have reliable and valid measures been identified which can demonstrate that the outputs have been achieved?

_____ 6. Have logic models either implicitly or explicitly been developed which link outputs to anticipated project outcomes (impacts)?

_____ 7. Have reliable and valid measures of these outcomes been defined?

_____ 8. Is there an implementation and impact assessment plan that includes performance measures?

_____ 9. Does the implementation and impact assessment plan include repeatable assessments?

_____ 10. Does the implementation and impact assessment plan address the personnel and financial resources necessary for implementation?

_____ 11. Does the implementation and impact assessment plan address the methodological issues involved in measurement reliability and validity?

_____ 12. Is there a plan for reviewing and reporting the measures?

_____ 13. Is there a plan for periodic review and modification of the measurement process?

Appendix A
References

Disclaimer: While this reference list is current to date, the documents may not always remain at the URL listed in the references below.

Baldridge National Quality Program. 2003. ***Criteria for Performance Excellence.*** Available at: **http://www.quality.nist.gov/Business_Criteria.htm.**

Center for Technology in Government. 1998. ***A Survey of System Development Process Models; CTG.MFA-003, Models for Action Project: Developing Practical Approaches to Electronic Records Management and Preservation.*** Albany, New York; University at Albany, SUNY. Available at: **http://www.ctg.albany.edu.**

Center for Technology in Government. 2000. ***And Justice for All: Designing Your Business Case for Integrating Justice Information.*** Albany, New York; University at Albany, SUNY. Available at: **http://www.ctg.albany.edu**.

Federal Enterprise Architecture Program Management Office. 2003. ***Business Reference Model (BRM) Version 2.0 Release Document***. Available at: **http://www.feapmo.gov/resources/fea_brm_release_document_rev_2.pdf**.

Federal Enterprise Architecture (FEA) Working Group. 2002 ***E-Gov Enterprise Architecture Guidance (Common Reference Model) Draft-Version 2.0***. Available at: **http://www.feapmo.gov/resources/E-Gov_Guidance_Final_Draft_v2.0.pdf**.

Integrated Justice Information System Working Group. 2000. ***Integrated Justice Information Systems Guidelines for Procurement.*** Available at: **http://www.ijis.org/library/products.html.**

International Association of Chiefs of Police. 2000. ***Toward Improved Criminal Justice Information Sharing: An Information Integration Planning Model.*** Available at: **http://www.theiacp.org/documents/pdfs/Publications/cjinfosharing.pdf.**

Information Technology Resources Board. 1999. ***Assessing the Risks of Commercial-Off-The-Shelf Applications.*** Available at: **www.itrb.gov**.

International Organization for Standardization. 2003a ***Open Systems Interconnection Reference Model.*** Available at: **http://www.iso.ch**.

International Organization for Standardization. 2003b ***Quality Management Principles (ISO 9000).*** Available at: **http://www.iso.ch/iso/en/iso9000-14000/iso9000/qmp.html**.

National Association of State Chief Information Officers. 2002. ***Enterprise Architecture Development Tool-Kit v2.0.*** Available at: **https://www.nascio.org/publications/index.cfm**.

National Center for State Courts. 2003. ***Standards for Electronic Filing Process (Technical and Business Approaches).*** Available at: **http://www.ncsconline.org**.

National Institute of Standards and Technology, 1998. ***Information Management Directions: The Integration Challenge***, NIST Special Publication 500-167. Available at: **http://www.itl.nist.gov/lab/specpubs/sp500.htm**.

Paulk, Mark C., Bill Curtis, Mary Beth Chrissis, and Charles V. Weber. 1993. ***Capability Maturity Model for Software, Version 1.1;*** Pittsburgh. Software Engineering Institute. Available at: **http://www.sei.cmu.edu/**.

Raines, Franklin D. 1996. ***Memorandum for Heads of Executive Department Agencies (M-97-02).*** Available at: **http://www.whitehouse.gov/omb/memoranda/m97-02.html**.

SEARCH. 2000. ***Planning the Integration of Justice Information Systems: Developing Justice Information Exchange Points.*** Sacramento, CA: SEARCH. Available at: **www.search.org/integration/pdf/ExchangePoints.pdf** or **www.search.org**.

SEARCH. 2001. Court ***Technology Survey.*** Available at: **http://www.search.org/publications/pdffiles/CourtTechnologySurveyRepor.pdf**.

SEARCH. 2002. ***Planning the Integration of Justice Information Systems: Developing the Justice Information Exchange Model.*** Available at: **http://www.search.org/integration/pdf/JIEM.pdf**.

The Standish Group. 1995. ***The Chaos Report (1994).*** The Standish Group International, Inc. Available at: **http://www.standishgroup.com/sample_research/chaos_1994_1.php**.

Threatte, James. 2001. ***Integrated Justice Information System Architecture: Building Blocks Construction.*** Copyright by James Threatte. Available at: **http://it.ojp.gov/technology/files/IJISArchitectureReport.pdf** or http:**//www.ijis.org/library/reports/ijisarchitecturereport.pdf.**

Appendix B
Selected Resources for Further Information

Disclaimer: The information contained in the following websites does not necessarily reflect the opinions of the Center for Society, Law and Justice or the Bureau of Justice Assistance. In addition, while this list is current to date, the documents may not always remain at the URL listed in the references below.

Assessment and Planning

Chief Information Officers Council. 2000. ***Architecture Alignment and Assessment Guide.*** October, 2000. Available at: **www.cio.gov/index.cfm?function=documents&section=enterprise%20architecture.**

Information Technology Resources Board. 1999. ***Managing Information Systems: A Practical Assessment Tool.*** Available at: **www.itrb.gov**.

> Designed for senior executives and senior agency professionals, this provides a set of questions and a checklist for understanding key issues. It does not include a scoring instrument or index. It is intended to produce insight and awareness by covering 3 key areas of managing information systems: agency strategy (mission and vision, customers, business focus); leadership (executive direction, capital planning, project and performance management); and technology (acquisition and architecture).

Office of Justice Programs. 1998. ***Drug Court Monitoring, Evaluation, and Management Information Systems.*** Available at: **www.ojp.usdoj.gov/dcpo/monitor/welcome.html**.

> This report is a summary of the ideas spawned from two focus group meetings involving drug practitioners, public health officials, court managers, and management information system experts. Focus group participants discussed *Monitoring and Evaluating Drug Courts* during the first meeting and *Drug Court Management Information System* during the second.

Washington State Department of Information Services. 1999. ***Information Technology Planning and Assessment Guidelines.*** Available at: **http://www.wa.gov/dis/portfolio/itplanningandassessmentguidelines.htm.**

While designed for agencies in the State of Washington, this guide provides a useful, easy-to-read approach to preparing and managing an agency technology investment portfolio. It covers elements (baseline, ongoing, and new investments) and dimensions (organization, technology alignment, opportunity planning, and technology impact) of IT portfolio management, as well as questions to consider and tools for assessing the costs, risks and benefits of IT investments (cost-benefit analysis, feasibility studies, information economics scorecard).

Architecture Options

Archer, Glenn. 2001. ***Information Integration and Interoperability: Architecture for a Regional Information Sharing System.*** Available at: **www.ijis.org**. Click on Education and Training.

A Microsoft PowerPoint presentation which provides an overview of the benefits of a regional sharing system and discusses three types of architectures (Internet/Intranet; Warehouse-Based Systems; and a Mediated-Portal Based System), as well as presenting some case studies and examples.

Threatte, James. 2001. ***Integrated Justice Information System Architecture: Building Blocks Construction.*** Copyright by James Threatte. Available at: **www.ijis.org**.

A comprehensive, in-depth discussion of the variety of different basic architectures (Consolidated/Centralized; Coordinated/Point-to-Point; Hybrid/Hub-and-Spoke) as well as the variety of types of data warehouses (Direct Query; Virtual Query; Single Subject Warehouse; Mixed Workloads; Virtual Global Warehouse; Event-Driven Warehouse); and data integration hub and document exchange architectures. The article provides detailed drawings and an evaluation of the pros and cons of each type of architecture.

Business Case

Center for Technology in Government. 2000. ***And Justice for All: Designing Your Business Case for Integrating Justice Information.*** SUNY-Albany: CTG. Available at: **www.ctg.albany.edu/resources/htmlrpt/justice_for_all/**.

Designed for a project champion or advocate, this manual provides step-by-step methods and tools for how to persuade elected officials, policymakers, colleagues, professionals, community groups and others of the need for integration. It provides a framework for analyzing the issues that concern different target groups for persuasion, defines the elements of a business case (problem and mission statements, objectives, alternatives and preferred approach, expected benefits, risks and

their mitigation, plan of work, project management and human resource implications, cost estimates and funding resources, and opposing arguments and responses) and how to effectively present and market it to specific audiences (e.g., presentation methods and materials, channels and vehicles for communication, frequently asked questions, etc.).

Business Rules

SEARCH. 2000. ***Planning the Integration of Justice Information Systems: Developing Justice Information Exchange Points.*** Sacramento, CA: SEARCH. Available at: **www.search.org/integration/pdf/ExchangePoints.pdf** or **www.search.org**.

This document is a project background report that is the first in a series. Its purpose is to provide a summary of information exchange programs currently implemented in the criminal justice system, as well as to provide example exchange models for specific sites.

Performance Goals and Measurement

Foundation for Performance Measurement. Available at: **www.fpm.com**.

The purpose of the Foundation is to link organizations in varying stages of implementing performance measurement programs within their agencies with experts in the field. A variety of organizations can benefit from a Foundation membership such as, leading corporations, public sector enterprises, institutional investors, business schools, and more.

General Accounting Office. 1997. ***Business Process Reengineering and Assessment Guide.*** Available at: **www.gao.gov/special.pubs/bprag/bpr.htm**.

This guide provides an introduction to business process reengineering and includes a framework for assessing reengineering, including nine major assessment issues designed for management.

General Services Administration. 1996. ***Performance-Based Management: Eight Steps to Develop and Use Information Technology Performance Measures Effectively.*** Available at: **www.c3i.osd.mil/org/cio/pa/**.

This manual explains how managers can use performance measurement to make decisions about IT projects, including use of the balanced scorecard and the information economics scorecard approaches.

SEARCH. 2003. ***Court Business Process Enhancement Guide: An Aid to Process Improvement and Process Reengineering for***

Judges, Court Managers, and Court Technology Information Officers. Available at: **http://www.search.org/publications/pdffiles/CourtBPEGuide.pdf**.

This article discusses how a focus on processes can be used to increase efficiency and effectiveness in courts.

Planning, Governance and Management

Bureau of Justice Assistance. 2002. ***Mission Possible: Strong Governance Structures for the Integration of Justice Information Systems.*** NCJ 192278. Available at: **http://www.ncjrs.org** or **www.ncjrs.org/pdffiles.**

This monograph presents the results of a survey of local governments and different methods and strategies of integration and governance structures.

General Accounting Office. 2001. ***Maximizing the Success of Chief Information Officers: Learning from Leading Organizations.*** GAO-01-376G. February, 2001. Available at: **www.cio.gov/Documents/d01376g.pdf**.

This monograph looks at information technology from the perspective of leadership which goes beyond technical support. Using case studies, the report provides a description of 3 critical success factors: value creation, promoting organizational credibility, and CIO responsibilities. Included are 7 appendices covering federal legislation, the CIO role, GAO and CIO and other resources.

IJIS Industry Working Group. 2000. ***Integrated Justice Information: Guidelines for Procurement.*** Available at: **www.ijis.org/library/products.html**.

This monograph provides an overview of related issues relevant to planning for integrated justice systems, including how building consensus, defining a vision, establishing business rules, and strategic planning are important in securing funding.

International Association of Chiefs of Police. 2000. ***Toward Improved Criminal Justice Information Sharing: An Information Integration Planning Model.*** Available at: **www.theiacp.org/documents/index.cfm?fuseaction=document&document_id=133**.

Developed as a generic model appropriate for a variety of justice agencies, this model includes eleven steps for planning an integrated system (key stakeholders, governance structure, decision-making process, goals, project scope, needs assessment, information system, costs and funding, implementation, inform and educate the community, evaluate and maintain system), and eight critical issues (project management, business

process reengineering, funding acquisition strategies, basic technology design, vendor relations/negotiations, privacy requirements, system security requirements, data integrity). It also includes case studies from site visits to Los Angeles, CA, San Diego, CA, Colorado, Louisiana, Michigan, North Carolina, resources and references, and a glossary of terms.

IT Governance Institute. 2001. ***Board Briefing on IT Governance.*** Available at: **http://www.itgovernance.org**.

A publication from the IT Governance Institute, this book describes IT governance, outlines why it is important, defines the role of boards and executive management in it and offers tool kits and maturity models for implementing and measuring IT governance enterprise-wide.

IT Governance Institute. 2000. ***Control Objectives for Information and related Technology (COBIT)*** Available at: **http://www.itgovernance.org/cobitmg.htm**.

The COBIT control framework is an open standard for control of information technology. It incorporates key goal indicators (KGIs) and key performance indicators (KPIs) based on the Kaplan/Norton concepts of outcome measures and performance drivers. Now in its third edition (the first two editions were issued by Information Systems Audit and Control Foundation, the third edition is published by the IT Governance Institute) COBIT identifies 34 information technology (IT) processes and a high-level approach to control over these processes, as well as 318 detailed control objectives and audit guidelines to assess the 34 IT processes. It provides a generally applicable and accepted standard for good IT security and control practices to support management's needs in determining and monitoring the appropriate level of IT security and control for their organizations.

The National Law Enforcement and Corrections Technology Center, 2001. ***A Guide for Applying Information Technology in Law Enforcement.*** Available at: **http://it.ojp.gov/manage/files/Applying-IT.pdf**.

National Criminal Justice Association. 2001a. ***States' Governance of Justice Information Systems Integration: Managing Decision-making in an Integrated Environment.*** Available at: **http://it.ojp.gov/manage/files/Gwen_010607_GAH_policy_paper_gov1.pdf**.

National Criminal Justice Association. 2001b. ***Who Decides? – An Overview of How States are Addressing Delegation of Authority and Decisionmaking in Managing Integrated Justice Information Systems.*** Available at: **http://www.it.ojp.gov/manage/files/Who_decides.pdf**.

U.S. Department of Justice. 2003. ***The Department of Justice Systems Development Life Cycle Guidance Document.*** Available at: **http://www.usdoj.gov/jmd/irm/lifecycle/table.htm**.

This document provides a structured approach to managing information system projects and includes documentation outlines and worksheets.

Zaffarano, Mark. Discovering Change Management Solutions for Technology Projects. ***The Court Management and Administration Report.*** Volume 10/Number 7/8. July/August, 1999. Pp. 1-15.

Article provides a description of the need for change management, introduces the change management process model, and provides a question-based checklist for developing change management policies and programs, as well as resources and tips for finding change management experts.

Privacy and Confidentiality Issues

Bureau of Justice Statistics. 1997. ***National Conference on Juvenile Justice Records: Appropriate Criminal and Noncriminal Justice Uses.*** Proceedings of a BJS/SEARCH Conference. Available at: **www.ojp.usdoj.gov/bjs/abstract/ncjjr.htm**.

This site contains presentations on the use and maintenance of juvenile records. It is part of a BJS series exploring the management of technologies and records in the criminal justice system.

Crime Mapping Research Center. 2001. ***Privacy in the Information Age: A Guide for Sharing Crime Maps and Spatial Data.*** NCJ 188739. Written by Julie Wartell and J. Thomas McEwen. Available at: **www.ojp.usdoj.gov/nij/pubs-sum/188739.htm**.

This report was designed to provide assistance to law enforcement agencies and others creating and sharing crime maps. It exemplifies best practices in maintaining data confidentiality, privacy, and crime mapping.

Griffin, Patrick. 2000. Separate Tables: Interagency Information Sharing in Real Life. ***NCJJ: In-Focus***. Volume 1. No. 4. Pp. 1-11. Available at: **www.ncjfcj.unr.edu/homepage/ncjj/ncjj2/publications/serial/infocus.htm**.

This article discusses the use of a focus group with multi-disciplinary participants to develop principles of information sharing, and provides insight into the difficult, frustrating, and contentious aspects of developing consensus. Issues discussed including differing views of who is the client and who is the perpetrator, cross-training, developing trust, data ownership, agency-based funding, and understanding confidentiality laws and how they are implemented with shared information.

Information and Privacy Commissioner/Ontario and U.S. Department of Justice, Office of Justice Programs. 2000. ***Privacy Design Principles for an Integrated Justice System Working Paper.*** Available at: **http://www.ipc.on.ca/scripts/home.asp?action=31&N_ID=1&P_ID=1&U_ID=0** or **http://www.ipc.on.ca/english/pubpres/papers/designpr.htm** or **http://www.ojp.usdoj.gov/archive/topics/integratedjustice/pdpapril.htm**.

Produced as a joint project of the Office of Ontario Information and Privacy Commissioner and the United States Department of Justice, Office of Justice Programs, this paper outlines a set of Privacy Design Principles that are relevant to the design and implementation of an integrated justice system.

National Criminal Justice Association. 2002***. Justice Information Privacy Guideline – Developing, Drafting and Assessing Privacy Policy for Justice Information Systems.*** Available at: **http://www.ncja.org/pdf/privacyguideline.pdf**.

This monograph discusses and defines privacy design principles for justice information policy, the circumstances under which a Privacy Impact Assessment (PIA) is needed, the three components of a PIA, and provides six concrete steps for agencies to use in conducting a PIA as part of the implementation process. It also provides a template for drafting a privacy policy.

Slayton, Julie. Office of Juvenile Justice and Delinquency Prevention. 2000. ***Establishing and Maintaining Interagency Information Sharing. JAIBG Bulletin.*** Available at: **www.ncjrs.org/pdffiles1/ojjdp/178281.pdf**.

This bulletin is to inform agencies about effective information sharing as it applies to the juvenile justice system. It also provides a model of interagency agreements and gives examples of best practices.

U.S. Department of Justice and the U.S. Department of Education. 1997. ***Sharing Information: A Guide to the Family Educational Rights and Privacy Act and Participation in Juvenile Justice Programs: Program Report.*** Available at: **http://ojjdp.ncjrs.org/pubs/general.html**

This monograph describes the prior consent and record keeping requirements of the Family Educational Rights and Privacy Act (FERPA), administration of FERPA, and the use of multi agency agreements to facilitate cooperation and information sharing. Appendices include model state statutes, interagency agreements, notification of rights under FERPA, and sample court orders.

Information Policy

Landsbergen, David and George Wolken. 1998. ***Eliminating Legal and Policy Barriers to Interoperable Government Systems. Phase II: Recommendations.*** ECLIPS Electronic Commerce, Law, and Information Policy Strategies: A Program of the Ohio Supercomputer Center. Available at: **www.osc.edu/press/releases/1998/phase_2_Recommendations.pdf**.

This paper discusses interoperability as a conceptual, not a technical problem, and provides concrete recommendations for resolving this problem for policymakers, management, technical, and community members.

U.S. Department of Justice/Office of Justice Programs. ***Information Technology Initiatives.*** Available at: **http://www.it.ojp.gov/**.

An easy-to-use, free access web site which provides a centralized place to find information sharing and technology integration resources. It includes a variety of information on standards, technology initiatives, and an extensive document library covering many areas of justice information policy.

U.S. General Services Administration, ***Office of Information Technology.*** Available at: **http://www.itpolicy.gsa.gov/**.

Portal which provides access to agencies and documents on IT policy. This site offers technology solutions to business problems, information on current technologies, and more.

Principles of Integration

Raines, Franklin D. 1996. ***Memorandum for Heads of Executive Department Agencies (M-97-02).*** Available at: **http://www.whitehouse.gov/omb/memoranda/m97-02.html**.

These 8 policies come from a memorandum issued by OMB Director Franklin Raines (October 25, 1996) under the Information Technology Management Reform Act (ITMRA). Commonly known as "Raines Rules," these policies specify good management practices for major information system investments.

SEARCH. 2000. ***Information in the Context of Justice Information Systems: A Common Understanding.*** Sacramento. Available at: **http://www.search.org/integration/pdf/Integration%20def.pdf**.

Public Access

Pardo, Theresa A., Sharon S. Dawes, and Anthony M. Cresswell. 2000. ***Opening Gateways: A Practical Guide for Designing Electronic Records Access Programs.*** Albany, NY: Center for

Technology in Government. Available at: **www.ctg.albany.edu/resources/pdfrpwp/gateways.pdf**.

While not specifically designed for the distinctive needs of criminal justice agencies, this guide provides 4 tools for planning programs for public access to electronic documents, data and records: an Assessment Tool (a set of checklists ranging from less to more problematic covering 15 program dimensions); a Diagnostic Tool (to help analyze whether the dimensions represent a constraint or are flexible); a Program Design Tool (diagraming options covering modest, moderate and elaborate designs); and a Cost-Estimation Tool (providing cost categories for the modest, moderate and elaborate categories). The tools are illustrated using an example for a hypothetical Children's Project Clearinghouse.

Risk Assessment

Information Technology Resources Board. 1999. Revised Version. ***Assessing the Risks of Commercial-Off-The-Shelf Applications: Lessons Learned.*** Available at: **www.itrb.gov**.

Provides a Risk Profile Tool to score the level of risk (low, medium, high) organized around five broad areas of implementing a COTS solution: business purpose; organization; technology; acquisition; and implementation.

Security

Harbitter, Alan and Jeff Langford. IJIS Industry Working Group. 2002. ***Information Security in Integrated Justice Applications: An Introductory Guide for the Practitioner.*** Available at: **www.ijis.org/library/reports/infosec4ijis3-19-02.pdf**.

This paper provides an overview of the unique challenges of security in integrated systems, as well as an overview of the major technologies and best practices presented in easy-to-understand terms.

IT Goverhance Institute. ***Information Security Governance: Guidance for Boards of Directors and Executive Management.*** Available at: **http://www.itgovernance.org/resources.htm**.

A publications from the IT Governance Institute, this book discusses why information security governance is increasingly important and outlines questions to ask and steps to take to ensure an effective information security governance program within an enterprise.

Tipton, Harold and Micki Krause, ed. 2001. ***Information Security Management Handbook Series.*** CRC Press, Boca Raton, Florida. Available at: **www.crcpress.com**.

The series is organized around the 10 domains (access control issues; telecommunications and network security; security management practices; applications and systems development security; cryptography; security architecture and models, operations security; business continuity planning and disaster recovery; law investigations and ethics; and physical security) of the certification examination for the Certified Information System Security Professional (CISSP).

Swanson, Marianne. 2001. ***Security Self-Assessment Guide for Information Technology Systems.*** National Institute of Standards and Technology, U.S. Department of Commerce. NIST Special Publication 800-26. Available at: **www.itl.nist.gov/lab/bulletns/bltnsep01.htm**.

This self-assessment guide covers 17 control areas related to management; operational controls, and technical controls. Each question within these 17 control areas refers to the Federal IT Security Assessment Framework based on 5 levels of effectiveness ranging from a documented security policy (Level 1), documented procedures (Level 2), implemented procedures (Level 3), tested and reviewed procedures and controls (Level 4), and integrated into a comprehensive program (Level 5). This guide assumes that agencies have already determined the value of the systems and the information being assessed, i.e., the sensitivity and criticality related to five protection categories of the Government Information Security Reform provisions of the National Defense Authorization Act of 2000: integrity, confidentiality, availability, authenticity, and non-repudiation.

Standards and Best Practices

Brotbeck, George, Tom Miller, and Joyce Statz. 1999. ***A Survey of Current Best Practices and Utilization of Standards in the Public and Private Sectors.*** TerraQuest Metrics, Inc. Available at: **http://www.dir.state.tx.us/eod/qa/bestprac.pdf**.

This paper provides an overview of standards, key findings of current state use of standards, emerging practices, and a listing of federal and state government resources and website locations.

Integrated Justice Information Systems Industry Working Group Standards Subcommittee. 2001. ***IJIS Standards: A Reconnaissance Mission.*** Available at: **www.ijis.org**. Click reference library, then click products.

Provides an overview of the initiatives that bear upon the development of standards related to national integration efforts. Standards are defined, the organizations involved in the devel-

opment of standards are identified, the process for developing standards, as well as recommendations and implications for the coordination of standards and the standards development process.

XML -Technical Terms

W3C. ***XML in 10 Points.*** 1999. Available at: **http://www.w3.org/XML/1999/XML-in-10-points**.

A summary of 10 points that attempts to capture some basic XML concepts. This site is useful for new XML users as well as instructors teaching a beginners XML course.