An Enterprise Approach to Justice Information Systems in Illinois

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Abstract

This paper discusses the business case for integrating justice information systems in Illinois. It details current deficiencies in Illinois' justice information systems and proposes the integration of these systems in such a manner that will reduce the transfer of paper at vital exchange points. Doing so, it is argued, will reduce redundant data entry and provide more timely, accurate, and complete information to decision makers in the Illinois justice enterprise.

Introduction

In recent years, many private organizations have initiated efforts to integrate disparate systems originally developed to serve particular sub-units of their business into more comprehensive systems that serve the entire enterprise. In the private sector, integration costs are typically justified by anticipated operational savings. For-profit companies are naturally eager to gain competitive advantage by linking disparate systems and initiating integration efforts when they will benefit the bottom line. This practice has become so pervasive in the private sector that it has a name (Enterprise Application Integration) and an acronym (EAI). There are also industry journals that focus exclusively on EAI and its enabling technologies—application middleware, XML, and data warehouse applications.

In days past, it was common for corporations and companies to build and maintain separate systems for individual departments such as human resources, accounting and sales even though these departments shared common information. Many corporate information systems were segregated simply because of limitations imposed by the technologies available when those systems were developed. Today, such technology limitations don't exist; as a result, most organizations take an enterprise approach to systems building and consolidate systems that serve different departments and sub-units. In addition, many companies are integrating systems beyond their corporate boundaries in order to reduce the costs of exchanging information with other companies. This is most frequently done when multiple companies coordinate their business practices across "supply chains." Such supply chains might link separate companies engaged in manufacturing, distribution, and retail. The advantage of this type of cross-company cooperation is that information moves more quickly and is usually more accurate and complete. The extensive and long standing use of these integration technologies in the private sector is beneficial to government integration initiatives, since many integration technologies are now tested, mature and dependable.

The usual benefits of integration are seen as reducing data redundancy and gaining greater efficiency. It is generally recognized that integration initiatives can be expensive, yet many jurisdictions justify integration expenditures by detailing the potential for long-term cost savings as well as overall improvements in the quality and timeliness of justice information. The cost savings should result from eliminating redundant data entry and systems infrastructures. However, more significant gains in value could result from enhanced information quality and timeliness, and improved workflow management.

The costs of integration may include the purchase of new systems infrastructures to enable communication between existing agency systems, and fees to consultants and systems architects who plan, develop and implement integration technologies. However, by making a clear business case that includes a detailed cost/benefit analysis, the costs associated with new integration efforts may seem significantly less onerous. Conversely, the costs

of not integrating can also be daunting. The projected costs of maintaining existing systems and supporting current business practices should be considered as they will likely increase as labor and systems maintenance costs continue to rise. Beyond these material issues, there are also costs associated with the possible risks of misinformed bail and sentencing decisions on offenders when criminal history and current status information is lacking in accuracy, completeness, or timeliness. When viewed in the context of increased costs of doing business in the traditional fashion, expenditures for integration will likely be viewed in a more favorable light.

Justice Systems Today

Most justice information systems were originally designed to be autonomous and to not share information with other justice systems. When information associated with the justice process travels from one agency to another (as it must for the justice enterprise to function) many agency systems require that every piece of information be re-entered by the receiving agency—frequently from computer printouts generated by the agency supplying the information. The disadvantages associated with conducting business in this fashion can be eliminated if the involved systems can be linked in a way that allows electronic data sharing. This serves to eliminate redundant re-keying of data as it moves from one agency to another.

If such a straightforward step as linking systems can save so much expense then why does the justice enterprise still maintain its "silo" approach to systems and system building? The simple answer is that the barriers to integrating older systems are formidable. Not only is it difficult to enable complex systems that were designed in isolation to communicate with other systems, but the respective agencies may also be concerned about losing autonomy, and perhaps compromising the security of the information they need in order to operate.

Overview of the justice process

Every step in the criminal justice process relies upon information that has been gathered previously. If the information is timely, accurate and complete, the process will proceed smoothly; but if not, key offender-based decisions will be compromised by poor data quality and avoidable delays. At present, justice-related information is fragmented and its movement can be sporadic and unpredictable. Most information exchange depends upon a person to initiate its transfer from one agency to another, and much of the information flowing through the justice system is carried on bits of paper.

Consider a simple arrest. An arrest is often made as the result of a police officer actually observing a crime in progress—the so-called "on view" arrest. This arrest event, will lead to the booking and fingerprinting of the arrestee. The technology used for the fingerprinting makes a significant difference in the speed with which the suspect is positively identified and classified.

If an electronic identification method is used, the arrestee's fingerprints can be more quickly classified than by relying on manual techniques. Once classified, a criminal history record can be quickly acquired or an accurate determination can be made that the defendant has no previous criminal history. Unfortunately, in many cases, arrestees are still fingerprinted through the old ink and roll technique. However, even when livescan is used, agencies often mail their livescan submissions to the State Police's Automated Fingerprint Identification System (AFIS) for classification rather than transmitting them electronically. The response from the State Police could then take weeks, at which point the defendant will have likely been charged and released on bond before confirmation arrives that the defendant is, in fact, who he claims to be. It is also entirely possible that the defendant is tried and sentenced before notification of actual identity arrives from the State Police.

Even when livescan is utilized as intended and an electronic transmittal is used to send the prints and request identification and fingerprint classification, the next step in the justice process—the transfer of arrest/booking data from the arresting agency to court-related agencies—will likely be paper-based. The information is then manually re-keyed into several different systems including the clerk's system, the prosecutor's system, the social services system, the pre-trial detention (jail) system, the public defender's system and the probation system. At every step in the process—from arrest to bond hearing, bond hearing to preliminary hearing, preliminary hearing to trial, trial to incarceration or probation, trial to appeals or other post-trial activity—there is the potential for data reentry. In some instances information will even be manually reentered from one system to another within the same agency.

Deficiencies in vital criminal history data

According to a 1999 audit of reportable Illinois felony dispositions by the Illinois Criminal Justice Information Authority, only 48.3 percent of Cook County dispositions were added to state rap sheets. This due to several factors. First, during the audit period, about 17 percent of arrests went unreported—and without an underlying arrest, a disposition cannot be posted. Also, according to the Illinois State Police, 45% of reported dispositions had problems with inaccurate document control numbers (DCN) – a unique tracking number associated with an arrest as well as its associated charging and court events – and could not be posted (the DCN number on the reported disposition was not the same as the number on the reported arrest). A final factor is that approximately 27% of the postings had problems with statute citation matches. These arrests and dispositions ranged from property crimes and drug offenses to forcible felonies.

To address the deficiencies in criminal history information, some jurisdictions supplement the official Illinois "state" sheet with information derived from local databases and case tracking systems. This, however, forces the judge to use multiple sources of criminal history information, some of which may conflict. In

Cook County, once the defendant arrives at bond court, court staff, using defendant names and other demographic information, act quickly to gather criminal history information that is either missing from state rap sheets or is not part of the rap sheet content. They consult various Cook County, state, and federal databases for indications of previous adult and juvenile contacts, and current offender status. They also place phone calls to other counties or states if there is indication of arrests beyond Cook County borders. Because of the low rate of disposition posting, (less than 50 percent), this cobbling together of information from disparate sources may occur in well over half of all cases. Exceptional measures by the individuals assigned to assemble complete criminal dossiers may not even be enough to ensure that complete and accurate criminal history records are available to those making decisions about a defendant's bond status and possible release from custody.

No matter where the information comes from, unless all of a defendant's dispositions are captured and presented in a timely fashion, the defendant may appear to be significantly less criminally active than would otherwise be the case. In some instances, a previously convicted felon may even appear to have no criminal past at all. In such instances, a judge will be forced to, for example, guess whether or not a defendant is likely to flee prosecution. Judges would then need to rely on subjective criteria or direct questioning of the defendant — both of which are undependable means of making a key public safety decision.

In a more integrated environment, the initial rap sheet would be generated at the time the subject's fingerprints were classified and returned to the arresting agency. They would then forward a complete criminal history to the courts, containing an accurate record of all criminal history details. The heroics performed by workers at the county level would then be unnecessary. More importantly, the risk of granting an inappropriate bond would be substantially lowered. Additionally, the time spent by government employees in gathering fragmented criminal history information could be reallocated to other tasks.

Data entry redundancy, errors and inefficiency

As mentioned, one of the immediate benefits of enhanced systems integration between justice agencies that participate in the justice information chain is the elimination of duplicate labor. Such duplication occurs when data from one agency is transferred to another agency on paper and is then manually reentered. Systems that depend on reentered data from other systems can have severe data accuracy problems.

In addition to contributing to inaccuracy, manual data entry is expensive. Since the implementation of the first case tracking systems, dedicated data entry staff have been employed by most justice agencies. At that time, dedicated data entry staff were necessary because of the limitations imposed by available technologies on automated data sharing. Today, however, there are many technical solutions available for transferring and translating data from one

system to another. While capital outlay will be required to implement these solutions, the potential for savings by enabling electronic data exchange between agency systems is significant and in some cases will quickly offset initial expenditures.

Other public safety concerns

In addition to fiscal considerations related to integration, there are many less-quantifiable but significant integration issues related to public safety. The lack of timely, accurate and complete information can potentially endanger both public safety officers and the public. The following list includes some concerns related to public safety:

- Conditions of bond and/or sentencing may not be available to law enforcement so police lack crucial information when dealing with offenders and suspects.

- Orders of Protection are not dependably entered into central repositories, and when entered are frequently inaccurate thus compromising the safety of both police and the public.

- Current criminal justice system status information—such as warrants, pending court cases, and being on probation—is unavailable to police officers potentially leading to inappropriate arrest and release decisions and even possible endangerment of the officer.

- Witnesses and victims are inconvenienced due to incomplete court calendar information. The outcome of court cases can be adversely affected by these errors if witnesses and victims fail to appear for needed testimony.

- Information available to intake officers at the Illinois Department of Corrections is frequently anecdotal and available only from the offenders due to lack of information from police, prosecution, and court agencies.

- Because of the lack of dispositions in the central repository, felons can illegally purchase guns from licensed gun dealers who perform background checks that return incomplete or inaccurate information.

- Positive offender identification may be delayed or impossible potentially leading to the inappropriate release of defendants through uninformed bail decisions.

- Inaccurate or outdated warrant information may lead to the repeated arrest of citizens for crimes they did not commit.

- Inaccurate data entry may lead to crimes being posted to an individual's rap sheet that they did not commit.

Cumulative deficiencies in justice information

Deficiencies in the criminal justice information systems in Illinois have been accumulating for years, notwithstanding the great sums of money being spent on justice-related automation and criminal history improvement projects. In fact, the overall quality of criminal history information has not significantly improved, and by some measures has worsened. This is because these resources were allocated to individual agencies for agency-specific projects when the problem is not agency-specific, but involves communication between many agencies. In order for these resource allocations to have a significant effect on the overall quality of justice information, they must be coordinated in such a way as to encourage information sharing and integration. The current deficiencies are not the fault of any one agency or any group of agencies, rather they result from the lack of an enterprise approach.

Illinois isn't the only state that has experienced data quality problems. States such as Colorado, Pennsylvania, Kansas, Kentucky, and Missouri suffered from deficiencies related to disposition reporting and posting, but have also experienced improvement resulting from their integration efforts. Deficiencies in criminal history information were significant drivers for these states to begin the process of integrating their justice information systems, and their work is beginning to pay off. One significant example of the benefits of integration took place in Colorado, where the state more than doubled its disposition-posting rate by linking justice entities through the use of software called middleware. This software acts as a real-time translation tool for information flowing electronically between independent justice information systems. Other states have also made significant progress toward improving their central criminal history repositories but improvements have been gradual.

Shift from an agency-centric to an enterprise approach

To address the problems of criminal history record information in Illinois, agencies must be rewarded and reinforced for assuming a larger view. The state should channel funding to local and state initiatives that promote effective sharing of information, and discourage funding of those that enable independent islands of information. The state must also measure actual performance in terms of process improvement, and continue to fund those counties, municipalities and agencies that demonstrate ongoing performance improvement. Two ways this can be measured are by their ability to electronically exchange information in a real-time fashion, and to post ever-higher percentages of accurate dispositions and arrests to the state central repository. Justice agencies must also be rewarded when they move to eliminate redundant data entry within their jurisdictions since the resulting inevitable human errors are a prime reason that a large percentage of dispositions cannot be posted in Illinois. Only through informed leadership at the highest levels will these changes occur.