

Pennsylvania's Path to Improved Dispositional Reporting

Warrant and Disposition Management Project

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Pennsylvania's Path to Improved Dispositional Reporting

Introduction

Dispositional reporting in the state of Pennsylvania was developed from a paper, form-based process to a fully automated, standards-based system utilizing a service-oriented architecture. The current process is the result of several iterations of business-driven technology projects focused on a singular mission of capturing and communicating quality data in the most efficient means available at the time. The result is a centrally managed criminal history repository for disposition reporting by the Pennsylvania State Police. This repository is subsequently used for state and federal reporting and rap sheet reporting. Significant collaboration in technological enhancements and business-process improvements now yield **80-90%** disposition reporting rates.

The lack of disposition information causes more manual effort for background check requests and Megan's law processing for the State Police. Incomplete criminal history information also causes more effort at the county level and in other state agencies. The lack of disposition data affects accuracy of the information at Federal Bureau of Investigation's National Crime Information Center (NCIC).

Original, Hardcopy Process

In the years before automation, reporting of court dispositions to the Pennsylvania State Police (PSP) was done manually through completion of a form called a "Docket Transcript." The third page of the transcript, known as the "3 sheet," was submitted to a central Administrative Office of Pennsylvania Courts (AOPC) Statistical Unit, and then the detailed disposition information was forwarded to the PSP for processing. The form was very cumbersome and required a seven-page explanation in the 1991 Clerk of Courts manual. There were times when the Docket Transcripts were not properly filed, and there were issues with timeliness as well as with matching these records to an original arrest. It is estimated that the success of matching dispositions to arrests at this time was around **20-30%**. While an Offense Tracking Number was assigned at the time of the filing of the case with the court or at fingerprinting, matching to this number was often faulty and/or disposition records were just not submitted.

First Electronic Interface

Prior to 2004, the AOPC, in collaboration with the PSP and Juvenile Courts, introduced an early extensible markup language (XML) messaging interface with PSP. That interface included the use of a web interface for recording "3 sheet" information by the county courts, a file transfer protocol (FTP) interface to provide bulk submissions by the county courts, and a direct system feed from the existing lower court system. This interface was called "Livepost" and it had a submission success rate of about

50-60%. At the time, there was no statewide Criminal Common Pleas court system. The PSP processed each docket transcript record, generated agency reports and notifications, and if the criteria were met, updated the Computerized Criminal History Record Information System (CCHRI). If arrest data were not in the CCHRI system for the reported disposition data, the record was placed in a no-match file for reprocessing nine months later. If the disposition data did not meet the edit criteria, then the disposition data were entered into a rejection database for correction by PSP's Records and Identification (R&I) Bureau. PSP then prepared tapes for submission to the National Crime Information Center (NCIC) of all disposition records applied to the CCHRI database.

First GJXDM Court Case Event Interface

As the Common Pleas Criminal Case Management System (CPCMS) was developed and rolled out between 2003 and 2006, the AOPC sought to provide dispositional information to PSP through a standards-based XML message interface in near real-time directly from the new statewide system. The AOPC's design used the Global Justice XML Data Model (GJXDM) standard to create a specific CCHRI message based upon AOPC's Court Case Event model. The Court Case Event model implements a service-oriented architecture that provides a framework for the general publication of court information based upon business-level events recorded in the case management system. These events are categorized into a specific messaging channel based upon functional area and controlled through a business-driven event registration process. Business events are triggered by the CPCMS through the recording of user actions that are subsequently replicated to a central warehouse using database replication software. Through the use of database triggers, stored procedures, and event registration metadata, publication events are produced for consumption by the messaging middleware components. Those events categorized as a Disposition or Sentence event are then routed to PSP for dispositional reporting. Initially, this message improved disposition matching rates to about **70%**.

To insure successful completion of this standards-based XML interface, AOPC developed a strong partnership with PSP and the Pennsylvania Justice Network (JNET) in order to accomplish the goal of integrated messaging for the reporting of dispositions. Meetings and a design for the interface began in 2003 and the interface was implemented in September 2007. Although it was the desire of AOPC to deliver the new CCHRI system as AOPC migrated counties to the new statewide system, the coordination effort required across all affected agencies required AOPC to utilize the Livepost interface (circa 2004) initially.

Recent Enhancements

After the initial Court Case Event interface was put in place, PSP and AOPC continued to work together to further improve the success rate of disposition matching. While implementing the statewide warrant system, the AOPC designed a new criminal complaint form, enhancing the reporting of defendants' demographics. This allowed the disposition message to be augmented to include names identified to be specific aliases, thus improving the probability of name matching overall by providing PSP with more than one name-matching option for a defendant.

PSP also implemented an automated notification process between PSP and AOPC to report new, updated, and deleted Offense Tracking Numbers (OTNS) and demographic data. This notification was designed to ensure that the OTNS, charges, names, and other key data points were synchronized between the data systems as criminal cases made their way through the adjudicatory process. Better management of OTNS yields better disposition matching.

PSP enhanced the algorithms used to match arrest and disposition records, which reduced the number of transactions requiring manual review. The agencies also worked together to update historical records in CCHRI that had no disposition. Files were sent to AOPC containing OTNS for records without disposition, and AOPC returned dispositions to update CCHRI.

The agencies also collaborated on the enhancement of the mapping of offense and disposition descriptors. PSP utilizes offense codes, whereas the AOPC cites Purdon's statutes¹. PSP utilizes codes to depict disposition and penalty data, whereas the AOPC describes dispositions in text. The PSP-AOPC mapping is stored in the AOPC case management systems and implemented within the publication of the messages.

The current interface utilizes Simple Object Access Protocol² (SOAP) standard and GJXDM based messages over IBM's Websphere MQ³ middleware to "pass" information through JNET to PSP.

Two data quality initiatives have greatly improved county and arresting agency data entry through performance measurement and reporting. These include the Pennsylvania Commission on Crime and Delinquency (PCCD) Fingerprint Compliance Workgroup and the Data Quality Framework for Criminal Justice, which are described in detail in later sections.

Current audit results indicate that **80-90%** of dispositions are now being matched to arrest information.

Challenges

Many of the challenges that existed in manual disposition reporting persisted in the initial stages of message-based disposition reporting, because they are business-process and business-rule challenges, not technological challenges. Some of these are described below.

1. *Fingerprint cards created after an offense tracking number is assigned.* The inability to match a disposition record with an existing arrest record often resulted from instances when the defendant was not arrested "on site." There are many instances in which a defendant is not "booked" when the criminal complaint is filed: for example, a defendant is summoned to appear in court for a preliminary hearing. In Pennsylvania, the court assigns an OTN at the point the complaint is filed. The rules require that the court order the defendant to be fingerprinted, but Pennsylvania courts do not have fingerprinting

¹ <http://government.westlaw.com/linkedslice/default.asp?SP=pac-1000>

² <http://www.w3.org/TR/soap12-part1/>

³ <http://www.redbooks.ibm.com/abstracts/sg247128.html>

equipment, so the defendant must be directed to an agency. There are many possible outcomes to this scenario, including:

- a. The defendant may fail to appear before an agency as required.
- b. The agency may fail to use the court-assigned OTN on the fingerprint record and may issue yet another OTN.
- c. The agency may erroneously reuse an OTN.
- d. A state fingerprint ID (SID) may not be returned to the court based upon the results. Thus, a secondary mechanism for matching is lost.

As mentioned earlier, two business-based data-quality initiatives have greatly improved the disposition reporting for these scenarios: the PCCD Fingerprint Compliance Initiative and the Data Quality Framework for Criminal Justice⁴.

2. *Inability to update a disposition record to reflect a subsequent change in the court determination.* Originally, the PSP system could only accept one final disposition for a charge. For example, if a case were reopened on appeal, a new disposition of a specific offense could not be processed. PSP has modified its process to accept and overwrite a disposition on a charge.

The next two challenges persist in Pennsylvania's disposition reporting system today. The Commonwealth's new strategies for addressing them are described in the "Future Directions" section.

3. *Charges change at many points during court processing.* PSP's process tries to match to the specific charge at the time of arrest, but in many cases, additional charges are added during the indicting process and charges are modified or dropped. Even though AOPC retains the original sequence number of the charge on the criminal complaint to aid in better matching (using the combination of the OTN and the Originating Sequence Number), specific charges continue to fall out of the process and persist with no disposition.
4. *Different coding mechanisms for charges.* As described earlier, PSP and the AOPC mapped PSP's charge codes to the Purdon's statute citations used by the AOPC, and the AOPC agreed to store PSP's codes within the CPCMS metadata. Now, both codes are passed in the Court Case Event message. The messaging interface greatly improved the charge mapping, but the challenge is not completely solved. One PSP code might map to several Purdon's statutes. Also, some codes remain unmapped.

⁴ Please see pages 5-7 for a more detailed explanation of these initiatives.

Future Directions

The Pennsylvania State Police is looking at two major modifications to its process to make disposition matching more efficient.

1. Storing the charges at arrest and the charges at disposition as separate and unique entities, eliminating the traditional approach of attempting to match charge-by-charge. The new approach recognizes that charges change dramatically throughout the life-cycle of a case.
2. Converting the charges that are submitted through Automated Fingerprint Identification System (AFIS) sites throughout the Commonwealth directly to a Purdon's statute-based offense code, eliminating the need to map, store, and transmit different descriptors of charges.

Business Process Considerations

Many different scenarios produce disposition records that may not be able to be matched with original arrest records. In Pennsylvania, these include:

- The charges levied at the time of arrest are not exactly the same as the charges on the criminal complaint filed with the court.
- The Offense Tracking Number assigned to the original criminal complaint is not the Offense Tracking Number used at the time of fingerprinting.
- The Offense Tracking Number assigned at the time of arrest is not included on the criminal complaint filed with the court (causing the court to assign a new OTN).
- Defendants' demographics are refined during the lifecycle of the case and no longer match the demographics recorded during the arrest (e.g., changes to the name, driver's license number, date of birth, etc.).
- The charges filed on the criminal complaint are further refined through arraignment and information filing.

Through close, sustained collaboration among agencies, many of these issues have been greatly lessened. AOPC and PSP have been active participants in these initiatives, providing the base data that both groups rely upon.

Pennsylvania Commission on Crime and Delinquency Fingerprint Compliance Workgroup

Working with PCCD, PSP, and JNET, AOPC developed a process to produce a report that monitors the fingerprint compliance rates of every local law enforcement agency in Pennsylvania. Through the use of

this report and assistance of County Criminal Justice Advisory Boards⁵ (CJABs), the overall compliance rate has risen from 67% in early 2007 to over 83% today.

The PCCD convened the Fingerprint Compliance Workgroup to study the issue of fingerprint compliance at the local law enforcement level in Pennsylvania. The workgroup is made up of representatives from PCCD and the CJABs' County Technology Workgroups. In its concluding report the Committee stated,

The introduction of automated fingerprint identification systems (AFIS) for biometric identification revolutionized law enforcement. Offenders can be identified today with speed and accuracy unimagined just 30 years ago. Yet, as with any process, there is room for improvement and need for improvement. The fingerprint process has received a great deal of attention during the past two years. The work of JNET, the pending report of the Attorney General, and the endeavors of this committee are the culmination of careful analysis of the status of fingerprinting of criminal offenders. The recommendations of the PCCD Fingerprinting Committee should shift attention of the Commonwealth's criminal justice community to a new direction of monitoring and improving the process of fingerprinting. The PCCD Office of Criminal Justice System Improvements is ready and willing to work with the justice community to support the recommendations of the Fingerprint Committee, with the conviction that our collective efforts will result in a safer Pennsylvania.⁶

The Fingerprint Compliance Workgroup continues the 2006 Committee's initial effort. It is beginning to use the data contained in the compliance report to map the overall compliance rate as it relates to equipment placement, usage, and population. Moving forward, the workgroup will refine the reporting method to continue to move towards a goal of 100% compliance.

Data Quality Framework for Criminal Justice

Through the oversight of the County Commissioners Association of Pennsylvania (CCAP)⁷, the Data Quality Framework for Criminal Justice Steering Committee and the Courts and Corrections Committee launched a data quality project to improve the quality of information being entered and shared, including both the OTN and SID. CCAP worked in conjunction with the County Chief Adult Probation and Parole Officers' Association and the Pennsylvania District Attorneys Institute to secure additional grant funding through PCCD to improve the quality of information collected within local criminal justice record keeping systems, including police systems that include OTN and SID.

Project staff members worked directly with counties to monitor the quality of data and put into place mechanisms for standardizing the language used to describe offenders, so that data can be shared electronically and consistently. Counties that participated in the project did so to improve criminal justice operations: decreasing data entry errors, increasing consistency of data entry within and

⁵ <http://www.portal.state.pa.us/portal/server.pt?open=514&objID=493307&mode=2>

⁶ <http://www.portal.state.pa.us/portal/server.pt?open=512&objID=17450&mode=2&PageID=611004> – “Fingerprint Compliance Update”

⁷ www.pacounties.org

between the records management systems, and providing for more accurate offender information. Better data impact the ability of decision makers to address prison overcrowding, offender transfer processing, and service delivery. Participating counties benefited through assistance in creating a county justice project team that included representatives from a broad spectrum of groups involved in criminal justice work including the AOPC. The pilot counties received training from the CCAP Data Quality Improvement Team to enhance data quality elements and to develop corrective plans of action to improve the county criminal justice reporting system.

The Data Quality Framework was honored with a “Best of NIEM” award in 2011 from the National Information Exchange Model (NIEM) Program Management Office.⁸

Pennsylvania Justice Network (JNET)

The Pennsylvania Justice Network⁹ (JNET) has facilitated strong relationships among justice agencies in the Commonwealth. In 1996, an initial blueprint was established by a Steering Committee that outlined the initial objectives for a successful integrated public safety system and organization. JNET is the Commonwealth’s secure “virtual single system” for the sharing of justice information. Much of JNET’s success can be attributed to the collaboration and cooperation of many partner agencies. JNET works closely with state agencies in order to provide secure access to a multitude of data sources. This collaborative effort has allowed JNET to mature into the commonwealth’s primary public safety and criminal justice information broker. Through the adoption of innovative concepts, cost-effective business practices, and ongoing collaboration with key stakeholders, JNET is an internationally renowned platform for integrated justice services.

A strong governance structure and decisive executive sponsorship have allowed JNET to grow, mature, and enhance public safety with unprecedented results. Overwhelming participation from municipal, county, state, and federal agencies has helped guide JNET through a decade of changes and integrated justice development.

Commonwealth agencies contributing information within the JNET secure portal include the following:

- Administrative Office of Pennsylvania Courts
- Juvenile Court Judges’ Commission
- Pennsylvania Board of Probation and Parole
- Pennsylvania Chiefs of Police Association
- Pennsylvania Commission on Crime & Delinquency
- Pennsylvania Commission on Sentencing
- Pennsylvania Department of Corrections
- Pennsylvania Department of Health
- Pennsylvania Department of Public Welfare
- Pennsylvania Department of Transportation

⁸ <http://www.pacounties.org/Lists/Whats%20New/Attachments/134/NIEM%20AWARD%20ANNOUNCEMENT3.pdf>

⁹ www.pajnet.state.pa.us

- Pennsylvania State Police



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