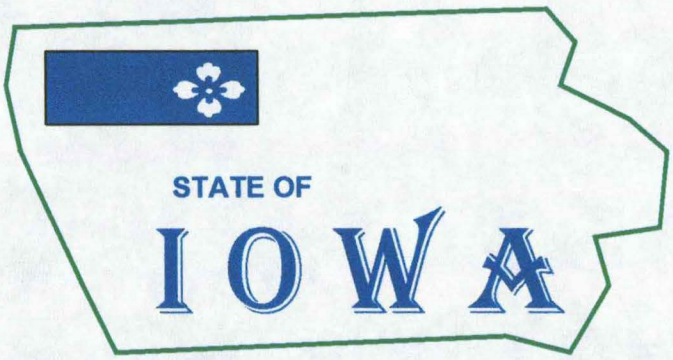

IOWA DIVISION OF CRIMINAL AND JUVENILE JUSTICE PLANNING

JUSTICE DATA WAREHOUSE ASSESSMENT: SUMMARY REPORT

Prepared By:
Bull HN Information Systems Inc.
February 13, 1998

STATEMENT OF REPORT CONDITIONS

This Assessment Summary Report is presented in satisfaction of the final deliverable, as defined in the limited amendment (number 2) to Master Contract Number 1868, between the State of Iowa (via its Division of Criminal and Juvenile Justice Planning) and Bull HN Information Systems Inc.

This report is based on information provided from discussions with the Division of Criminal and Juvenile Justice Planning, members of the project's "Planning Group," and members of the Iowa Court Information System staff. Your needs may change and only you can determine the suitability of this report for your specific business needs. ACCORDINGLY, BULL MAKES NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, REGARDING THIS REPORT OR THE SERVICES.

This report is intended for evaluation purposes only. Bull expressly reserves all rights in the inventions and information contained in this report. It shall not be disclosed to any third party.

The prices provided herein should be considered as estimates only, and are subject to change without notice.

Because Bull was not permitted on-line access to the Iowa Court Information System, data that was found to be inconsistent, incomplete or incorrect could not be properly researched. Therefore, any conclusions or documented deliverables resulting from this assessment may be subject to error, and at best, are only as accurate as the documentation provided by the State.

All references in this report to your needs, requirements, specifications and the like shall mean only as they have been defined to Bull.

Iowa Division of Criminal and Juvenile Justice Planning

Justice Data Warehouse Assessment Summary Report

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1.0 EXECUTIVE SUMMARY

1.1 Assessment Overview.

To better manage and plan for justice-related business functions across all branches of state government, the Iowa Division of Criminal and Juvenile Justice (CJJP) issued a "Request for Services" to investigate the development of a Justice Data Warehouse (JDW). In response, Bull Information Systems (Bull) proposed to conduct a data warehouse assessment, to help guide the project's Planning Group in their understanding and decision to implement a JDW.

Following contract award in late October, 1997, Bull began working with the seven justice-related agencies comprising the JDW Planning Group. In addition to the CJJP, this included the:

- Office of the Court Administrator
- Legislative Fiscal Bureau
- Department of Management
- Office of the State Public Defender
- Department of Public Safety
- Department of Corrections

Bull's warehouse assessment was conducted over a ten-week period and was performed in four phases:

- Business Assessment
- Requirements Assessment
- Environment Assessment
- Logical Database Design

Following the completion of all related phase activities, Bull reviewed its findings and developed a recommended solution for the Justice Data Warehouse. This recommendation, along with each activity's definition, overview, findings, and deliverables is detailed here, in the "Justice Data Warehouse Assessment Summary Report", and is presented to the Planning Group for their review and consideration.

1.2 Business Assessment Summary.

Business Discovery. An abridged version of Bull's Business Discovery process was used to assess Planning Group agencies' business functions, in an effort to identify candidates for JDW implementation. By utilizing Bull's Business Discovery Worksheets, agency business functions, issues, and capabilities—required to resolve their business issues—were defined. The first functional areas for JDW implementation were also identified. These three areas will comprise the first functional module of the warehouse:

- Legislative Fiscal Notes Preparation
- Correctional Impact Assessments
- Indigent Defense Assessments

Although no decisions were made regarding the makeup or sequence of the next functional modules, five other business areas were targeted for future implementation:

- Criminal History Records
- Domestic Abuse and Restraining Orders
- Sex Offenders
- Child Abuse
- Civil Court Cases

Information Discovery. Bull employed three sets of Information Discovery activities to assess the data requirements of agency business functions, and to help develop an initial sizing of the Justice Data Warehouse.

- *Data Inventory:*

  A data inventory was conducted to gain a better understanding of the key systems, data domains and entities comprising the three business areas selected for initial JDW implementation. During this activity:

  - a database overview was conducted with ICIS staff members
  - nine documents were collected and studied.
  - three areas of ICIS functionality were reviewed: Case Processing, Case Administration, and System Administration.
  - pertinent ICIS subsystems were identified and studied.
  - minor subsystems were identified.

- four key ICIS data domains were defined, along with their relevant data entities.

- *Data Modeling Workshop:*

  A data modeling workshop was conducted and a conceptual-level data model (CDM) was produced. This model reflects the data required by Planning Group agencies to perform the business functions selected for initial warehouse implementation. The CDM was based on the data requirements derived from a set of Business Discovery issues, selected by users at the start of the workshop. A total of 13 data entities were identified, along with their respective relationships. By the close of the day-and-a-half-long workshop, users were able to demonstrate that all previously identified data requirements could be satisfied by the CDM developed.

- *Data Demographics*:

  A Data Demographics assessment was conducted to determine an initial sizing for the Justice Data Warehouse. A variety of statistical information was collected about the ICIS source system—including database size, data volumes, system usage, anticipated growth rates, etc. This data was obtained via interviews with IS staff members, ICIS database reports, and record counts of key ICIS tables. A series of calculations was then performed, using both history and estimated projections. It was determined that, over the course of fives years, the JDW would grow to just over 20 GB of raw user data. This estimate was subsequently used as a key input in developing the alternative warehouse configurations.

1.3 Requirements Assessment Summary.

Functional Requirements. The Functional Requirements Assessment focused on the users' interface, in an effort to define the warehouse features required by JDW users, to perform their jobs more effectively and efficiently; and to assist them in achieving their business objectives. During a meeting with Planning Group members, Bull identified several requirements, ranging from the type and number of users, to controlling access to the warehouse.

Three types of users were identified for the Justice Data Warehouse: "Executive / Manager", "Knowledge Analyst", and "Power Analyst". Each user type differs from the other by their level of analytical sophistication, the nature of the data used (detail vs. summary), the need for ad-hoc vs. "canned" queries and reports, and the level of flexibility and control required.

The need for a general query and reporting tool, for use by all JDW users, was also identified. The required features of this tool include: a "Point-and-click", graphical user interface; robust query and reporting capabilities; ease of use; an ability to develop professional-looking, graphically-integrated reports; and the capability to be easily integrated with other software products and tools, to extend user functionality.

Controlling access to judicial-related data among State agencies is extremely important, and falls within the "Right to Privacy" act. This is particularly true for the Juvenile Court System, where data is considered highly sensitive. The Court Administrator's Office and CJJP will be the only two agencies permitted to access this data; all other State and private agencies will be barred access.

To restrict access to sensitive information and help secure the JDW, users will access the warehouse via visual data models. These models graphically represent the entities and relationships that are available to agencies with an authorized need to access that information. Two JDW data models will be implemented. The first, a *Restricted-Access Model,* will provide both adult criminal and juvenile justice data to the Court Administrator's Office and CJJP. The second, a *Controlled-Access Model,* will contain only adult criminal justice data, and will be made available to the remaining Planning Group agencies.

Data Management Requirements Assessment. The Data Management Requirements Assessment was used to identify the functional data management requirements, which will be used to secure the availability, consistency, and integrity of the Justice Data Warehouse. During a meeting with Planning Group members, Bull identified six sets of requirements:

- *Data Administration Requirements:*

  The JDW will require an individual to function as a data administrator to:

  - develop and maintain data management policies, procedures and standards.
  - manage data integrity and usage issues with agency user communities.
  - develop and maintain a data model management process.
  - review, coordinate and maintain the JDW logical data model(s) for accuracy and conformance.

- *Warehouse Security Requirements:*

  JDW security should be managed at four levels of warehouse architecture:

- Network Level
- System Level
- Database Level
- Application Level.

- *Warehouse Availability Requirements:*

  JDW should be made available six days a week, 15 hours a day, unless local ICIS operations schedules or other factors make this unachievable.

- *Warehouse Storage Requirements:*

  JDW should store data on a rolling monthly basis, for a five-year maximum accumulative total, or a three-year minimum accumulative total.

- *Warehouse Update Requirements:*

  JDW should be updated on a weekly basis.

- *Warehouse Purge and Archive Requirements:*

  Identification of JDW purge and archive requirements were postponed. They will, however, be defined after the warehouse has been operating for a period of time, and justice-related data volumes have begun to accumulate more significantly.

1.4 Environment Assessment Summary.

Technical Infrastructure Assessment. The technical infrastructure assessment evaluated three system environments that are currently in use within Iowa's state government: the Iowa Court Information System (ICIS), the Iowa Communications Network (ICN), and the three mainframe systems. This assessment was conducted to determine how well their respective technologies could support a full-scale production data warehouse.

- *Iowa Court Information System:*

  ICIS is a statewide application used to support the day-to-day criminal and juvenile court operations, and its related activities. Each of the State's 99 counties has its own Oracle database, which is identical in structure to every other county database. There is no means to readily access court information from other counties, as the architecture does not allow for exchange of data between counties. Only select data is transferred and consolidated at the district level for court scheduling purposes. As of mid-1997, all counties had implemented ICIS and were using at least some, if not all, ICIS modules.

As a result of this assessment, three tasks were identified as required activities, and should be performed as part of warehouse design:

- Identify all data fields that are not used consistently by all counties, and decide how to resolve their discrepancies.
- Determine the frequency and nature of warehouse updates, in relation to individual county operations.
- Establish rules for deriving or calculating data that is not directly available from ICIS.

- *Iowa Communications Network*:

  The ICN is a voice, data, and full motion video network. It consists of a high-speed fiber optic backbone that is connected to each of the 99 county LANs, three State Universities, a PBS station, and the State Capital. It is anticipated that the current network configuration will be capable of providing adequate throughput and capacity to handle projected warehouse volumes. However, since the analysis of individual county LANs was not part of this project, the following tasks should be conducted as part of warehouse design:

  - Document the similarities or differences that may exist between the 99 county LANs.
  - Determine the actual throughput and bottlenecks for each LAN, to assess the impact on data transfer rates.
  - Estimate the impact of data extracts and warehouse downloads on county operations schedules.

- *Mainframe Environment:*

  The State has three IBM-9000 MVS/ESA mainframe computers, each capable of processing 80 or 160 million instructions per second (MIPS). Two of these systems utilize hierarchical IDMS databases, the other a relational DB2 database. While all three are large enough to accommodate a data warehouse, only the DB2-based system is capable of functioning as a data warehouse.

  Warehouse implementations utilizing DB2 have, however, encountered a variety of problems. As a result, DB2 is not the best choice for medium-sized warehouses with high growth potential, like that of the JDW. Namely, DB2 has:

  - difficulty handling complex ad-hoc queries (involving more than four table joins).
  - difficulty growing beyond a two-node configuration.
  - difficulty updating large data volumes.

- limited parallel processing capabilities.
- required higher levels of database administration.

Skills and Training Assessment. Skills and Training Assessment is a set of activities used to evaluate the current skill sets of the business and IT organizations. Typically, it results in the definition of recommended training programs to help successfully implement, operate and use the data warehouse. Due to the Planning Group's need to reduce the overall cost of the JDW Assessment Project, the skills assessment portion of this activity was not performed. Instead, Bull focused on defining the generic skill sets required for each technical role and functional end user type expected to interface with the warehouse. This included definitions for:

- *Technical Roles:*
  - Database Administrator (DBA)
  - Data Administrator (DA)
- *End User Types:*
  - Executive / Manager User
  - Knowledge Analyst
  - Power Analyst

1.5 Logical Database Design Summary.

As a starting point for JDW database design, Bull developed a fully-attributed logical data model (LDM), depicting the data entities of the three business functions selected for warehouse implementation. During this activity, Bull focused on:

- agency data needs for the first module.
- business functions targeted for future JDW implementations.
- design flexibility—to accommodate future module integration, with minimal changes to the existing design.

Following a series of systems analysis activities, the logical data model was developed; it consisted of relevant data entities, primary keys and entity relationships, organized into five realms or areas of data:

- Person Data
- General Case Management Data
- Adult Case Management Data

- Juvenile Case Management Data
- Reference Data

In total, the model is comprised of 35 data entities and over 40 relationships. For each table and data element contained in the LDM, a documented set of user metadata was developed. This is information that Bull believes will be useful to end-users, by helping them to better understand the data content of the warehouse. Within this document, a number of data-related issues and items have been cited, which must be verified, defined or resolved. These items appear at the bottom of each table definition, and must be addressed before physical database design can realistically progress.

1.6 Alternatives and Recommendations Summary.

Bull considered three relational database alternatives as foundations upon which to build the Justice Data Warehouse:

DB2 *Oracle* *Teradata*

When assessing these alternatives, a number of factors were considered:

- The intended use of the Justice Data Warehouse by Planning Group agencies and others in the foreseeable future.
- The parallel processing features of each database.
- The level of on-going technical and administrative support required.
- The ability and ease of the database to handle future demands and growth.
- The overall cost to purchase and maintain the solution.

After careful consideration of these factors and the State's current systems environments, Bull is recommending *a Teradata-based NCR solution as its warehouse solution* of choice. This solution has been estimated at **$1,185,064**, and consists of hardware, software and integration services. This total has been split into two pieces—hardware/software and services. The hardware/software estimate is based largely on actual price quotes obtained at the time of solution preparation; the services estimate was developed using Bull's pricing model for NCR / Teradata warehouse projects.

Hardware / Software	**$ 596,578**
Warehouse Integration Services	**$ 588,486**

The hardware and software components defined below have been group into two categories: System Components, and Data Access and Analysis Tools.

- *System Components:*
  - System Hardware / Software: $ 348,450
    - > NCR 4700 Single-Node Hardware System
    - > Unix Operating System
    - > Teradata Relational Database Management System
    - > RAID 5 Disk Array / Subsystem
    - > 128 Licensed Users
  - System Backup and Recovery: $ 44,730
    - > IBM Host Channel Connect Alternative (Recommended)
    - > Teradata Tape Library System Alternative
  - System Maintenance and Support: $ 122,072
    - > First-Year Maintenance / Support Contract ($ 122,072)
    - > 1 Full-time Database Administrator (New Hire)
    - > 1 Full-time Data Administrator
- *Data Access and Analysis Tools:*
  - General Query, Reporting and Presentation: $ 36,745
    - > 50 GQL Desktops
    - > 1 GQL Administrator
  - Geographic Mapping: $ 2,200
    - > 10 MapInfo / County-level Mapping Sets
    - > 10 MapInfo / City-level Mapping Sets
  - Statistical Analysis: $ 7,950
    - > 10 SPSS Base Statistical Modules
  - Metadata Facility: $ 34,431
    - > NT-based Server (w/ MS Windows NT Server, and MS SQL Server)
    - > Logic Works ERwin/ERX
    - > Logic Works ModelMart
    - > Bull-Developed User Query Application (estimated within services)

Some of the key service components include items such as:

- *Data Transformation and Migration:* $ 234,685
- *User Support* $ 55,000

- *Miscellaneous* $ 127,600

  (e.g., installation, backup, security, benchmarking, etc.)

When the State is prepared to initiate efforts to build the Justice Data Warehouse, assuming Bull has the necessary resources available, the JDW can be implemented within 12 or fewer months. The following project phases are the recommended steps to implement the data warehouse.

1. Develop the physical data model for the full-scale database.
2. Build a prototype warehouse in Bull's Phoenix Competency Center to respond to the 14 questions in Exhibit 3.9.
3. Use and evaluate the prototype for 30 days; utilize GQL to access its data.
4. Purchase and install hardware / software at the State's facility; generate the full-scale JDW database structure.
5. Migrate prototype data to the State's JDW platform and database.
6. Expand database to populate all fields in preparation for full-scale JDW production.
7. Test and move the first full-scale JDW module into production.
8. Extend access to JDW users.

2.0 INTRODUCTION

2.1 Project Background.

Criminal and juvenile justice data has grown both in volume and complexity during the last ten years. Based on current estimates, the total accumulated data volumes collected by on-line transaction processing systems doubles every two years. This valuable and historic base of information remains out of reach to most agency decision makers who could otherwise benefit, by utilizing the data to perform basic business analyses and decision support activities.

One key example of this problem involves the Iowa Court Information System (ICIS). While ICIS has proven to be a very useful system in supporting the day-to-day court operations at the local (county) level, there is no readily available or efficient means to access court information on a *statewide* basis (i.e., ICIS data exists on 99 separate county systems). Ultimately, the lack of accurate, consolidated statewide data has inhibited the quality and timeliness of the analyses performed by State agencies, which in turn, has effected the credibility of their results, and the value of their decisions.

To better manage and plan for justice-related business functions across *all three* branches of state government, a consortium of criminal justice-related agencies (a.k.a. the Planning Group) was formed to investigate the development of a Justice Data Warehouse. A "Request for Service" was issued, and Bull Information Systems was selected to perform the evaluation.

Beginning October 27, 1997 through January 16, 1998, Bull conducted a 10-week assessment for a Justice Data Warehouse. The sections of the summary report that follow detail the activities, findings and recommendations resulting from this investigation.

2.2 Summary Report Structure.

The Justice Data Warehouse Assessment Summary Report is organized into five sections. The first three sections—*Business Assessment*, *Requirements Assessment*, and *Environment Assessment*—summarize their respective assessment activities and findings. The fourth section, *Logical Database Design*, reviews key features of the logical data model proposed for the full-scale JDW, as well as the metadata defined to date. The fifth section, *Assessment Recommendations*, defines the alternatives and recommendations for a full-scale, production-level Justice Data Warehouse.

Every activity performed as part of this assessment has been summarized into four subsections: an activity definition, an activity overview, activity findings and conclusions, and a presentation of activity deliverables. Additional sections, such as activity notes, may be included if necessary.

- Definition. Defines the activity and its objectives.

- Overview. Describes / identifies the:
  - methodology and/or process employed.
  - business area(s) and participants involved.
  - timeframe performed.
  - data and/or documentation collected.

- Findings / Conclusions. Summarizes Bull's findings and/or activity conclusions.

- Deliverables. Presents deliverables in documented form:
  - in their entirety; or …
  - as a sample or excerpt *; or …
  - as a summary *.

  (* Completed deliverable enclosed in appendix.)

- Notes. May include:
  - issues or concerns
  - things Bull was unable to identify or determine
  - physical design and/or implementation notes
  - disclaimers
  - etc.

3.0 BUSINESS ASSESSMENT

3.1 Business Discovery.

Definition. Business Discovery is a process used to assess agency(s) business functions in an effort to identify candidates for warehouse implementation. Its focus is typically on the identification of critical business issues that are impeding an organization's performance, and its ability to achieve specific goals and objectives. It is effective in developing a cross-agency business understanding, and a shared vision of the proposed data warehouse. Upon completion, the Business Discovery process will have identified:

- business functions, issues, and capabilities, needed to resolve / correct the business issues.
- the short-term project scope (i.e., the first functional area for warehouse implementation).
- a long-term project scope (i.e., the development of a warehouse implementation roadmap).

Overview. In an effort to reduce the total cost of the JDW Assessment Project, the Planning Group elected to conduct the business and data requirements assessments themselves, rather than requiring Bull to perform it for them. Therefore, prior to the start of the assessment project, CJJP conducted agency interviews and analyses with Planning Group members, and produced a document entitled "Draft of Agency Needs for ICIS Data". This document (Exhibit 3.1, Appendix A) defines both business and data requirements to be addressed by the Judicial Data Warehouse, as well as identifies improvements in data quality and analysis as its key objectives.

Because Business Discovery plays a pivotal role in the delineation of warehouse objectives, scope, and implementation, Bull elected to supplement CJJP's analyses by providing Planning Group members with copies of Bull's "Business Discovery Guide" and "Business Discovery Worksheet". These documents, located in Appendix A as Exhibits 3.2 and 3.3 respectively, enabled Group agencies to execute Bull's discovery process with minimal direction and assistance. This process was accomplished in two steps:

- Step 1: Executed by each agency individually *(* key steps)*.
  - * Identification of the business *functions* performed.
  - * Identification of the business *issues* impeding an agency's ability to achieve it business goals and objectives.
  - * Assessment of the *impact* of an issue on the agency.

* Assessment of the *value-add* to the agency, if the issue is resolved.
* Assessment of a *relative priority* for each issue, based on the agency impact and value-add (when resolved).
- Identification of the *functional capabilities* needed to resolve each issue (as opposed to the technology required).
- Identification of *how achievement or success will be defined* or determined for each issue.

- Step 2: Executed by the Planning Group collectively *(* key steps)*
  * Definition of the *scope of the full-scale JDW implementation* by prioritizing all issues across all agencies.
  * Definition of the *scope of the first JDW iteration* for implementation (This will be the business area(s) implemented for the "Proof-of-Concept" prototype).
  * Definition of *the scope of subsequent JDW iteration(s),* by selecting specific business functions and issues to be addressed.
  - Definition of a *JDW Roadmap* by sequencing and "timeboxing" the subsequent iterations (not performed).

Six of the seven Group agencies participated in Bull's discovery process; they were (including agency participants):

- Division of Criminal and Juvenile Justice Planning
  (D. Huff, D. Keiger, L. Prell, L. Roeder)
- Legislative Fiscal Bureau
  (D. Ferguson, D. Kruse)
- Department of Management (with the House Republican Caucus)
  (D. Hart with M. Thomson)
- Office of the State Public Defender
  (S. Rapp)
- Department of Public Safety
  (C. Bidler)
- Department of Corrections
  (J. Bucklew, et al.)

Group members worked during the week of October 20, 1997, to complete as much of Step 1 and their respective agency's worksheets as time would permit. Bull then met with each agency for approximately two hours the following week, October 28 - October 30, to review their Business Discovery information.

Step 2 of the Business Discovery process was completed November 10, in a meeting held with Planning Group members and Bull. During

this session, a summary of each agency's business focus, critical issues, and needs and requirements were presented. The scope of the full-scale Justice Data Warehouse was reviewed, and the business areas targeted for implementation into the first JDW "module" were selected. The remaining business areas to comprise subsequent implementation modules were discussed, but no decisions regarding module make up or order of precedence were made.

Findings / Conclusions. The findings and conclusions of the Business Discovery activity are summarized as follows:

- *Candidates for Warehouse Implementation:*

  Planning Group agencies are most concerned with their inability to adequately conduct justice-related assessments in the areas of:

  - Legislative Fiscal Notes
  - Correctional Impact
  - Indigent Defense
  - Criminal History Records
  - Domestic Abuse and Restraining Orders
  - Sex Offenders

  These business functions comprise a list of the most current and prominent candidates for inclusion to the Justice Data Warehouse.

- *Common Business Functions:*

  Three business functions—*Legislative Fiscal Notes Preparation, Correctional Impact Assessments,* and *Indigent Defense Assessments*—were identified as key functions to five Planning Group agencies. These agencies either perform the activities, or rely on utilizing their results. One or more of these functions are critical to the:

  - Department of Management
  - Legislative Fiscal Bureau
  - DIA / Public Defender's Office
  - Division of Criminal and Juvenile Justice Planning
  - Department of Corrections

- *First "Module" for Implementation:*

  Because of their relevance and importance to a majority of Planning Group agencies, these same functions (i.e., fiscal notes preparation, and correctional impact and indigent defense assessments) were selected by Group members as the first and

most logical business areas for implementation into the Justice Data Warehouse. The development of this module is expected to provide agencies with a single, centralized source of specific justice-related data. It should also provide agencies with the means to assess, report, and predict—in a *significantly more accurate and timely manner*—the costs, needs, and/or impacts of statewide:

- criminal charging trends.
- criminal disposition and sentencing trends.
- juvenile justice trends, including waivers to adult court.
- indigent defense trends.
- fines imposed and collected.
- proposed and actual changes in State and Federal statute.
- proposed and actual changes in policy and programs.
- annual funding trends and changes.
- appropriations requests and expenditures.

In addition to these benefits, the Department of Public Safety should realize some improvement in their ability to assess criminal history records, as well as arrest warrants, mittimuses, and other criminal court orders.

- *Business Functions Targeted for Future Implementation:*

Of the six business areas identified as candidates for warehouse implementation, three areas have been targeted for future integration. These areas, plus two other business functions identified during discussion, are:

- Criminal History Records
- Domestic Abuse and Restraining Orders
- Sex Offenders
- Child Abuse
- Civil Court Cases

The Planning Group did not define the business areas comprising the next JDW modules, or the order in which they will be implemented. Such decisions, however, are not required as part of the Assessment or initial implementation, and can be made when the Group is ready to begin planning for the next warehouse phase.

- *Estimated "Return on Investment":*

  Because Group members did not *quantify* the impact of their business issues on their individual agencies, or the corresponding benefits anticipated once resolved, Bull was not able to provide the Planning Group with an estimated ROI. It is possible, however, that the State could recoup their investment in three or fewer years, based on a 1996 report—published by the Massachusetts-based market research firm, International Data Corporation—which determined that the average return on investment for data warehouses to be *401% over three years*.

Deliverables. In support of the conclusions and decisions defined above, copies of the CJJP draft document and agency Business Discovery worksheets have been enclosed in Appendix A. Although these documents exist at varying levels of detail and completion, Planning Group agencies have clearly identified the justice-related issues that are most critical to their organizations today, their associated impacts, and the potential benefits that resolving them would provide.

- Exhibit 3.1: CJJP document "Draft of Agency Needs for ICIS Data"
- Exhibit 3.4: CJJP Business Discovery Worksheet
  (Includes input from the Department of Management, the House Republican Caucus, and the Department of Corrections)
- Exhibit 3.5: LFB Business Discovery Worksheet
- Exhibit 3.6: DIA / OPD Business Discovery Worksheet
- Exhibit 3.7: DPS Business Discovery Worksheet

3.2 Information Discovery.

Definition. Information Discovery is a set of processes used to assess the data requirements of agency business functions, and to initially gauge the size of a data warehouse. Its focus is on obtaining an understanding of the data currently in use in agency organizations, and that which will be employed in the warehouse. These objectives are accomplished by conducting a series of individual interviews, in combination with an interactive data-modeling workshop. Upon completion, Information Discovery will deliver a:

- Data Inventory
- Conceptual Data Model
- Set of Data Demographics

3.2.1 DATA INVENTORY.

Overview. The primary objective of the Data Inventory activity is to gain an understanding of the key systems, data domains and entities comprising the business area(s) selected. Because the scope of the JDW Phase I Implementation was restricted to ICIS-sourced data, the time involved in this activity was significantly reduced. For instance, information provided in CJJP's "Request for Services" and subsequent Vendors Conference (July 23, 1997) was used to initially define the scope of the ICIS system and its composite subsystems. Additional information regarding ICIS data domains, entities and data elements was derived from the database documentation, provided prior to the start of the project. This material was reviewed with ICIS system staff members (L. Murphy, S. Runke, and et al) October 28, 1997.

While conducting the Data Inventory, Bull had collected and studied a total of nine documents:

1) *"Request for Service - Justice Data Warehouse Project", Attachment B:*
   - "Summary of ICIS Architecture"
   - ICIS User Manual, Sections 3 - 7 (summary descriptions of application subsystems, April '91)
2) *"ICIS Core Subsystems and Secondary Subsystems"* (documented listing)
3) *"ICIS Table Names"* (documented listing)
4) *"Entities and Their Descriptions"* (Oracle Designer/2000 Report, July '97)
5) *"Relationships"* (Oracle Designer/2000 Report, July '97)
6) *"... Primary Keys to Tables in ICIS"* (documented listing)
7) *Entity / Relationship Diagrams*:
   - People Maintenance (January '97)
   - Case Processing (December '96)
   - Juvenile Case Management (not dated)
   - Case Scheduling (January '97)
   - Case Financial Management (incomplete)
   - System Administration (not dated)
8) *"Entities and their Attributes"* (Oracle Designer/2000 Report, July '97)
9) *"ICIS Table Descriptions"* (documented listing, March '97)

Findings / Conclusion. By the conclusion of Data Inventory, Bull had completed a high-level review of the ICIS system and its functionality. Its subsystems, data domains, and entities pertinent to Fiscal Notes preparation, and correctional impact and indigent defense assessments had all been identified. This information is summarized in Exhibit 3.8 below.

EXHIBIT 3.8: DATA INVENTORY SUMMARY

ICIS SYSTEM COMPONENTS

Three Types of System Functionality:

- Case Processing
- Case Administration
- System Administration

Major Subsystems:

Case Processing:
- Consolidated Case Processing (i.e., Adult Case Processing)
- Juvenile Court System (i.e., Juvenile Case Processing)
- Juvenile Court Services (Intake)

Case Administration:
- Case Financial Management
- Scheduling
- Notice Generation
- Tickler

System Administration:
- System Administration
- Data Distribution

Of the 12 ICIS subsystems originally designed, three were not implemented:
- Appellate Case Processing
- Appellate Records Management
- Jury Management

Minor Subsystems:

Case Processing:
- Criminal History Interface

System Administration:
- Remote Inquiry
- Abstractor Reports
- Purge to History

Fiscal:
- Central Collections Interface
- Treasury Interface
- Revenue & Finance Interface
- Auditor Reports

PERTINENT ICIS SUBSYSTEMS

Fiscal Notes Preparation, Correctional Impact and Indigent Defense Assessments:

- Consolidated Case Processing - Provides adult case initiation and management functions for Trial Courts. Also includes vital records.
- Juvenile Court System - Provides juvenile case initiation and management functions, along with placement resource maintenance functions for Juvenile Courts.
- Juvenile Court Services - Provides functionality specific to the Juvenile Intake process.
- Case Financial Management - Provides accounts receivable and accounts payable functions for all court entities.

Daily Court Operations:

- Scheduling - Provides calendar generation, event scheduling, and conflict checking functions for all court entities.
- Notice Generation - Provides notice generation and administration functions for all court entities.
- Tickler - Provides tracking functions to all court entities for future case events.

KEY ICIS DATA DOMAINS AND ENTITIES

Data Domains	Data Entities	
• People	- People - Demographics - Characteristics - Address	- Alternate Name - Name Change - Related People - Judge - Attorney
• General Case	- Case - Event - Jury Trial	- Case Closing - Related Case
• Adult Case	- Charge - Adjudication - Disposition	
• Juvenile Case	- Incident - Charge - Adjudication - Disposition - Intake Decision	- Informal Agreement - Placement - Placement Status - Community Service - Community Service Worked

Deliverables. (Same as Exhibit 3.6)

3.2.2 DATA MODELING WORKSHOP.

Definition. The objective of the Data Modeling Workshop is to develop a conceptual-level data model that reflects the data required by the business areas selected for warehouse implementation. The activity involves business users in an interactive modeling session, focusing on the business issues concerning them most. The workshop results in a high-level data model that is organized in a manner representative of the way users "think" about their business functions. It is used to demonstrate how their data can be used to resolve key business issues, and better meet their business objectives.

Overview. A one and a half day-long workshop was conducted November 19 – 18, 1997, involving most Planning Group members. (The session's agenda can be found in Appendix B, as Exhibit 3.9.)

Prior to the start of the workshop, in an effort to focus the session, Bull developed a list of data requirements derived from the business issues defined in agency worksheets. A total of 33 requirement statements were defined and categorized:

- *"ICIS-Supported":* Requirements supported by ICIS data. (19 of 33)
- *"Non- ICIS-Supported":* Requirements not supported by ICIS data. (9 of 33)
- *"Out of Scope":* Requirements not pertaining to Fiscal Notes, Correctional Impact, or Indigent Defense. (5 of 33)

(Requirements document in Exhibit 3.10, "Data Requirements Derived from Business Discovery Issues", Appendix B.)

As a first task, each workshop member was asked to select three "ICIS-Supported" requirements that were of greatest importance to him or her, or their respective Planning Group agency. These selections were then tallied, and a list of the 14 highest-rated requirements was compiled. The data modeling session was subsequently conducted based on the requirements in this list. (Exhibit 3.11, "Requirement Definitions: Planning Group Selections", Appendix B).

The modeling activity began with session members identifying the data "entities" or subject areas pertaining to each

requirement. Once all entities for all requirements were defined, the "attributes" or data elements were identified. (i.e., attributes are the "things" that agency members are interested in knowing about an entity; the things that, in most cases, are the data elements used in defining the requirements.).

After reviewing and finalizing the entities and attributes defined the previous day, the second (i.e., half) day of the workshop consisted of defining the "relationships" that existed between entities. (i.e., a relationship identifies the "pathway" by which users will "travel" from one entity and to another, to obtain data.)

Once all relationships were defined, the workshop ended with the validation of the data model against the list of data requirements. Session members were able to demonstrate for themselves that all data requirements, defined at the start of the workshop, could be satisfied by the data model; and that their associated business issues could be significantly improved or resolved (See "Note" below)

Findings / Conclusions. The findings and conclusions resulting from Data Modeling Workshop have been summarized as follows:

- *Highest Ranked Data Requirements (in workshop):*
  - (1) Offender- / offense-based charge, disposition, and sentencing data
  - (1) Imposed and collected fines data (by year, by offense)
  - (2) Characteristics-based case and charge data
  - (2) Indigent case and charge data
  - (2) Victim restitution data
- *Lowest Ranked Data Requirements (in workshop):*
  - Charge dismissal data.
  - Re-offending juvenile incident data (by charge, by program type, by service type).

- *Data Model Entities:*

Case Entities:	Relationship Ent's:	Person Entities:
- Case - Charge - Disposition - Penalty - Penalty-$$ - Penalty-Time - Warrants - Crime-Codes	- Attorney-Case* - Victim-Case* (* "Relationship Entities" handle the "Many-to-Many" relationships that exist between the "Case" entity and a specific person entity.)	- Person-Defendant - Person-Attorney - Person-Victim

Deliverables. In support of the conclusions and findings defined above, the following documents can be found in Appendix B:

- Exhibit 3.10: Data Requirements Derived from Business Discovery Issues
- Exhibit 3.11: Data Requirements: Planning Group Selections
- Exhibit 3.12: Conceptual Data Model

3.2.3 DATA DEMOGRAPHICS.

Definition. The objective of the Data Demographics assessment activity is to initially gauge the size of the data warehouse. Its focus is in collecting sufficient statistical information regarding source system applications—i.e, database sizing, data volumes, system usage, anticipated growth rates, etc—such that a preliminary sizing estimate can be made. Data is obtained in a combination of ways, including interviews with IS staff, source system database reports, and record counts of key tables. The projection that ultimately results is a key factor in defining and recommending a system configuration for the data warehouse.

Overview. Bull began its Data Demographic assessment by interviewing the ICIS system staff members for Polk County October 28, 1997 (S. Runke, et al). Since it was not possible for Bull to meet with system staffs from each county site, Bull was provided with demographic data from three representative counties:

- *Polk County:* typified a "large" county (the largest county in the State)
- *Jasper County:* typified a "medium" county
- *Ringgold County:* typified a "small" county

Three reports were provided for each county:

1. *ICIS Actual vs. Allocated Storage Report* - Contains data on the number of rows, blocks, and bytes allocated and used by each table in the Oracle database.
2. *ICIS Index Storage Report* - Contains data on the number of bytes used by indexes for each table in the Oracle database
3. *ICIS Total and Free Space Report* - Contains data on the number of bytes assigned and used per each tablespace defined in the Oracle database.

Bull was also provided with annual case filing reports (i.e., "Summary Report of Judicial Business") for each of the three counties, for calendar years 1992 through 1996. These reports were later used to estimate filing trends over this five-year period.

Lastly, Bull submitted a SQL script to ICIS system staff (K. Bosier), to obtained row count data from key ICIS tables, for the calendar year 1997.

Using the most relevant data provided, Bull then calculated the "raw" data volumes (i.e., user data only, excluding all database / system overhead and software) for select ICIS data sets statewide. The sequence of steps used in this calculation were as follows:

1. Estimate what percent of the State Polk County '97 case volumes accounted for.
2. Calculate actual annual Polk County growth rate from '92 – '96; estimate annual statewide growth rates for '98, and for 1999 – 2002.
3. Calculate '97 Polk County data volumes for select set of ICIS tables
4. Estimate '97 statewide data volumes for select set of ICIS tables
5. Project three-year statewide data volumes for select set of ICIS tables

6. Project five-year statewide data volumes for select set of ICIS tables

Findings / Conclusions.

The total amount of raw user data to be stored in the Justice Data Warehouse over the next fives years has been estimated at **22.6 GB.**

1. ***Percent of '97 statewide case volumes:***
   - ***Polk County:*** *~ 17%* of total statewide volumes
   - ***Remaining 98 Counties:*** *~ 83%* of total
     (See Appendix B / Exhibit 3.13)

2. ***Polk County (actual) annual growth rate from '92 – '96 was ~ 10%.***

   The ***estimate annual statewide growth rates*** (including Polk):
   - ***'98: 30%***
   - ***1999 – 2002: 10%***

   1998 is projected to have a higher annual growth rate across all counties since 1998 will be the first *full* year that all 99 counties will be operating on ICIS; the following years should be more representative of a normal growth rate (See Appendix B / Exhibit 3.14).

3. ***'97 Polk County data volumes for a select set of ICIS tables:***

   Actual values calculated from '97 row counts and record sizes (See Appendix B / Exhibit 3.15).

4. ***'97 statewide data volumes for a select set of ICIS tables:***

   Estimated values calculated using prior percentage calculated in #1 above (See Appendix B / Exhibit 3.15).

5. ***Three-year projection of statewide data volumes for select set of ICIS tables:*** ***12.0 GB*** (See Appendix B / Exhibit 3.15)

   Total data volume at end of year:
   - 1997: x
   - 1998: x + x[1.3] (i.e., 30% AGR
   - 1999: x + x[1.3] + x[1.3][1.1]

6. ***Five-year projection of statewide data volumes for select set of ICIS tables:*** ***22.6 GB*** (See App B / Exhibit 3.15)

Total data volume at end of year:

- 1997: x
- 1998: x + x[1.3] (i.e., 30% AGR)
- 1999: x + x[1.3] + x[1.3][1.1]
- 2000: x + x[1.3] + x[1.3][1.1] + x[1.3][1.1][1.1]
- 2001: x + x[1.3] + x[1.3][1.1] + x[1.3][1.1][1.1] + x[1.3][1.1][1.1][1.1]

(See Appendix B / Exhibit 3.15)

4.0 REQUIREMENTS ASSESSMENT

4.1 Functional Requirements Assessment.

Definition. Functional Requirements Assessment is an activity used to evaluate the functional requirements of the selected business areas, as a means to gauge the size of the warehouse development and integration effort. It focuses on the business users' interface, in an attempt to define the capabilities required by users to perform their jobs more effectively and efficiently, and to assist them in achieving their business objectives. The activity can employ both workgroup sessions and individual interviews, and will result in the identification of ad-hoc functionality and pre-defined processes, as required by user type.

Overview. Bull met with Planning Group members December 19, 1997 for a three-hour work session. The first half of the session was dedicated to discussing and defining functional requirements targeted for the JDW user interface. More specifically, this included the identification of:

- Types of Users
- Number of Users / User Type
- Data Type Requirements / User Type
- Level of Flexibility and Control / User Type
- Query, Reporting and Presentation Requirements
- Specialized Functionality
- Metadata Facilities
- Entity Access
- Visual Data Models

In an effort to reduce the total costs of the JDW Assessment Project, the Planning Group agreed (per the project's "Statement of Work") to postpone the definition of standardized, pre-defined processes and reports. If desired, these requirements can be defined and assessed when preparing for the implementation of the first full-scale JDW module.

Findings / Conclusions. The functional requirements defined by the Planning Group have been organized into three categories:

- Users and User Requirements
- Functionality and Tool Requirements
- Data Access Restrictions and Requirements

To provide Group members with a quick synopsis of these findings, a summary has been furnished in Exhibit 4.1 below. A complete discussion of JDW functional needs follows this exhibit.

EXHIBIT 4.1: FUNCTIONAL REQUIREMENTS SUMMARY

USERS AND USER REQUIREMENTS

User Type	User Numbers	Data Types	Flexibility & Control
Executive / Manager	9	Pre-aggregated, Summary-Level, Metadata	Least
Knowledge Analyst	31	Pre-aggregated, Summary-Level, Detailed Atomic-Level, Metadata	Significant
Power Analyst	5	Pre-aggregated, Summary-Level, Detailed Atomic-Level, Metadata	Most
Total	45 (→ 100+)		

FUNCTIONALITY AND TOOL REQUIREMENTS

User Type	Functionality	Data Access
Executive / Manager	Pre-defined, Automated	GUI-based
Knowledge Analyst	Ad-hoc, Drill-down, Pre-defined, Automated	GUI-based
Power Analyst	Command-line, Ad-hoc, Drill-down, Pre-defined, Automated	SQL GUI-based

Tool Type	Requirements
Query, Reporting, Presentation	GUI-based, Robust, Intuitive, Visual Models, Customizable, Graphical, "Executive Buttons", Extendable, Compatible
Specialized	GIS Tool, Statistical Analysis Tool
Metadata	User-level (minimally)

ACCESS RESTRICTIONS AND REQUIREMENTS

Restricted Access: Juvenile Court System and Intake data.

Access Requirements: Visual Data Models per user access type.

I. *Users and User Requirements*:

Three distinct types of users were identified by Group members as users of the Justice Data Warehouse: "Executive / Manager", "Knowledge Analyst", and "Power Analyst". Each type is differentiated from the other by the level of analytical and technical skills required. The descriptions below have been provided as *a general guide* to Planning Group members, to help them better understand the differences between user types. These descriptions should be viewed as "typical" as opposed to "the rule".

- **User Type Descriptions:**

  Executive / Manager: The Executive/Manager user possesses the fewest technical and analytical system skills, and relies heavily on the functionality provided by pre-defined queries and reports. This user is looking to quickly assimilate and compare aggregated, summary-level information as a means to quickly identify business opportunities and problems. The Executive/Manager is also looking to monitor the "pulse" of the business (or State) as a whole, by viewing pre-defined business indicators and measures, and identifying and analyzing trends. The tools available to this user typically present results in chart, graph, and report form, and enable him or her to review data on-line or in print.

  Knowledge Analyst: The Knowledge Analyst works directly with detailed warehouse data in a decision support role, to satisfy the information and reporting needs of the department (or agency). This individual is typically a non-technical business analyst who is capable of constructing and executing simple queries. The analyst can execute and/or modify pre-existing queries stored in libraries, and utilize summary data which may be less aggregated than that required by an Executive/ Manager user. The Knowledge Analyst is also adept at using query tools, and to a lesser degree, the query language (from within the tool), to analyze data for the occurrence of patterns, trends and changes.

  Power Analyst: The Power Analyst possesses the most advanced analytical and technical skill sets of the three users types. This individual is typically a *business analyst* who has a solid understanding of the warehouse's functionality, and its underlying database structures. He or she can be skilled in using more sophisticated analytical tools or the SQL query language directly; and they are often responsible for writing and executing complex, pre-defined queries in support of other agency users, or those individuals who

occasionally require greater database access. The Power Analyst's queries frequently require greater system resources. Therefore, there may be times when one of their processes is executed off-line in a batch environment, during evening hours. And like both the Knowledge Analyst and Executive/Manager users, the Power Analyst is skilled at using general query and reporting tools for high-level analysis.

- **Number of Users:**

Planning Group members estimated that the first full-scale module of the JDW will be utilized by approximately 45 users. This includes:

> 9 Executive/Manager Users
> 31 Knowledge Analysts
> 5 Power Analysts

Bull believes that, after the warehouse has been in production for a relatively short period of time (e.g., three to six months), *the number of users could double*. This is a likely outcome once the utility and value of the data warehouse have been demonstrated. For example, with just 50% participation from county Clerks-of-Court and Attorney staffs (i.e., only one additional user from each of 50 counties), *this number would quickly approach and surpass 100 users*.

- **Data Types per User:**

Executive/Manager: JDW Executive/Manager users will utilize "pre-processed" justice-related summary data. This is data that has been pre-aggregated and summarized as a means to simplify end-user data navigation and querying. Summary data is expressed in "multi-dimensional" numeric values, often referred to as "cubes". An example of a three-dimensional cube set that might be of interest to DOM management is *Collected Fines* data, expressed by: (D1) county, (D2) offense, and (D3) month.

Knowledge and Power Analysts: In addition to justice-related summary data, JDW Knowledge and Power users will also utilize simple, "atomic-level" data (also known as detailed data). This is data that is in its simplest form and has not been derived from other data elements. For example, county, month and offense, viewed individually are examples of atomic data.

All User Types: All users of the JDW will require access to "metadata". End-user metadata is data *about the data elements* stored in the warehouse. It helps users better

understand the relationship between the warehouse data and its ICIS source data. Planning Group members have requested that four attributes, at a minimum, be provided for each data element stored in the warehouse:

i. Definition [e.g., A one-character code that ...]
ii. Format [e.g., Char(4)]
iii. Possible Values or Domain [e.g., "Male", "Female"]
iv. Source [e.g., ICIS / "Case" Table]

- **Level of Flexibility and Control per User:**

Executive / Manager: JDW Executive / Manager users will have the lowest level of flexibility and control. This is because summary data limits an executive's view and range of access to data, due to the static, pre-defined summarization rules used to generate the queries. Typically, the greatest level of flexibility provided is via the use of parameterized processing. This is a common feature designed into predefined queries and reports; it provides users with the flexibility to enter specific values, or ranges of values, prior to "pushing the button" and executing the process. This type of functionality, however, does not permit users to "drill down" into the underlying detail to understand the "why" of their summary-based results.

Knowledge Analyst: JDW Knowledge Analysts will have a significant level of flexibility and control. In addition to summary-level data, these users will have access to detailed-level data, and therefore, will not be restricted in the manner or degree that executive users are. The generalized query and reporting functionality used by Knowledge Analysts will provide JDW users with a broad range of flexibility and control. For example, Knowledge Analysts can analyze data at any level in the warehouse: they can begin at the detailed level, and perform very focused analyses; or they can begin with more summary-level data, and perform iterative analyses—by drilling down into subsequent levels of detail—to examine the specific data driving their results.

Power Analyst: Power Analysts will have the greatest level of data flexibility and control within the JDW. In addition to the capabilities provided Knowledge Analysts, Power Analysts can further expand their flexibility and control by directly accessing the JDW database, via the use of "SQL", a standardized query language. Users can access, construct, edit, and execute SQL queries from the command-line, without having to employ a GUI-based "point-and-click" end user tool. This can ultimately provide Power Analysts with greater control of their processes, resulting potentially in better efficiency and performance.

II. *Functionality and Tool Requirements:*

- Query, Reporting, and Presentation Tools:

A general query and reporting tool is required for initial use by all JDW users. The minimum attributes for the recommended tool are:

- *GUI-based* - "Point-and-click" graphical representations for easy query construction (i.e., tables, relationships and attributes).
- *Robust* - Comprehensive query and reporting functionality.
- *Intuitive* - Easy to learn and use. Able to utilize following a brief period of training (i.e., ~ a day).
- *Visual Models* - Able to develop visual user data models, to restrict data access at an agency level
- *Customizable* - Able to develop professional-looking reports that can be easily customized.
- *Graphical* - Able to graph result sets into standard presentation formats (e.g., line, bar, pie, area, 3D).
- *"Executive" Buttons* - Able to automate pre-defined queries and reports easily with the use of customized buttons.
- *Extendable / Compatible* - Able to work in concert—and interface with—other software products and tools to extend user functionality.

- Specialized Tools:

Planning Group members are interested in utilizing a Geographical Information System (GIS, or mapping tool), and a statistical analysis package for use with the JDW. As part of this Assessment Summary Report, Bull will provide a recommendation for each, along with associated pricing information.

Data mining tools were also discussed. It was determined, however, that a data mining tool would not be needed as part of the Phase I JDW implementation, and would be re-accessed at some point in the future, following a period of JDW use.

- Metadata Facility:

To help Planning Group members better understand the relationship between the Justice Data Warehouse and the ICIS source system, the concept of "metadata" and the role of metadata facilities were discussed. Since these facilities help users utilize the data warehouse more effectively and

efficiently, Group members acknowledged the need for a metadata facility within the JDW. As part of this Assessment Summary Report, Bull will provide a metadata application recommendation, along with associated pricing information.

III. *Access Restrictions and Requirements:*

- **Access Restrictions:**

Juvenile Court System and Intake data was identified as highly sensitive information. Access to this information is protected by the "Right to Privacy" act and must, therefore, be restricted. The Court Administrators Office and CJJP will be the only agencies permitted to access this data on the JDW; all other State and private agencies will be barred access.

- **Access Requirements:**

In an effort to restrict access to sensitive information and help secure the JDW, users will access the warehouse via visual data models. Each model will graphically represent the entities and relationships that are available to agencies assigned to that level of access. Initially, two JDW data models will be implemented:

1. *Restricted-Access Model:*
   - Data: Adult criminal and juvenile justice data
   - Agencies: Court Administrator's Office, CJJP
2. *Controlled-Access Model:*
   - Data: Adult criminal justice data
   - Agencies: Remaining Planning Group agencies

It may be possible that additional levels of access will be required (e.g., for the public at large, as part of the "Iowa Access" project). If this should occur, additional data models will be created to provide the appropriate level of access to the JDW.

Deliverables. (See Exhibit 4.1)

4.2 Data Management Requirements Assessment.

Definition. Data Management Requirements Assessment is an activity used to identify the functional data management requirements, to help secure the availability, consistency, and integrity of warehouse data. The activity employs an interactive work session and/or individual

interviews, with participants from both the IT and selected business organizations. The objective of the Data Management assessment is to determine the *degree* to which various data protection capabilities must be provided; it results in a comprehensive set of requirements that addresses key aspects of warehouse integrity.

Overview. The second half of Bull's meeting with Planning Group members December 19, 1997 was dedicated to defining functional data management requirements. During that time, Group members defined their needs for Justice Data Warehouse:

- Data Administration
- Security
- Availability
- Storage
- Database Updates
- Purge and Archive Activities

In an effort to reduce the total costs of the JDW Assessment Project, the Planning Group agreed (per the project's "Statement of Work") to postpone the definition of database backups and restores. These requirements will be defined and assessed as part of the JDW Phase I design (i.e., of the first module).

Findings / Conclusion. To provide Group members with a quick synopsis of the JDW functional data management requirements, a summary has been furnished in Table 4.2 below. A complete discussion of these needs follows this exhibit.

TABLE 4.2: DATA MANAGEMENT REQUIREMENTS SUMMARY

Administration:	Data Administrator Required
Security:	4 Levels: Network, System, Database, Application
Availability:	6 Days / Week x 15 Hours / Day
Storage:	Rolling 5-Year Window (Maximum)
Updates:	Weekly
Backup & Restore:	To be defined in Phase I Design
Purge & Archive:	Postponed - Future Requirement

- *Data Administration Requirements:*

  Planning Group members acknowledged the need to provide a Data Administrator's (DA) function, to oversee and maintain the integrity of JDW data. Although both the DA and the Database Administrator's (DBA) functions are responsible for data integrity, they approach this responsibility from different perspectives:

Perspective	DA	DBA
Focus	Logical / Functional	Physical / Technical
Function	Systems Analyst	Database Technician
Approach	Policy, Procedures, Users	Database Functionality
Impact	Users, Business Process, Business Operations	Database Structure, Database Operations, Users

  More specifically, the DA for the Justice Data Warehouse will be responsible to:

  - develop and maintain data management policies, procedures and standards (e.g., regarding data transformations, audits, purge, and archive processes).
  - manage data integrity and usage issues with agency user communities.
  - develop and maintain a data model management process.
  - review, coordinate and maintain the JDW logical data model(s) for accuracy and conformance to standards.

- *Warehouse Security Requirements:*

  Like most every system, security of the Justice Data Warehouse is a critical consideration. Due to the sensitive nature of its case-related data—most specifically, juvenile justice data—it is imperative that JDW data be secured from unauthorized access. JDW security will be administered and managed at four levels of warehouse architecture:

  - *Network Level*: Using the current Iowa Communications Network topology, practices, and procedures.
  - *System Level*: Using personally-assigned Unix IDs and passwords.
  - *Database Level:* Using standard RDBMS functionality.
  - *Application Level:* Using specific tool features in combination with standard RDBMS functionality.

Database security will be based on the type of access assigned at the agency level. It will be implemented at two levels of the database—the data "realm" level and table level—by employing standard database practices (e.g., "User Groups", "Views", etc.) and command sets (e.g., "Grant", "Revoke", etc.). Also, JDW database security will be provided without the need for additional, more sophisticated measures, as is required, for example, with data encryption routines.

- *Warehouse Availability Requirements:*

  Warehouse availability defines the weekly timeframe that a warehouse's system must be up and available to users. A number of factors can impact warehouse total availability and must be carefully evaluated; this includes:

  - the number of source systems supplying data
  - source system production schedules
  - data transformation requirements
  - network infrastructure (LANs, WAN)
  - warehouse update frequency
  - warehouse update processes

  Planning Group members requested that the JDW be made available six days a week, 15 hours a day. Bull will evaluate this requirement during the JDW Phase I design, to determine the maximum amount of time available for warehouse use, and if the Group's "6 x 15" requirement can be met.

- *Warehouse Storage Requirements:*

  Planning Group members requested that the Justice Data Warehouse store data on a rolling monthly basis for a:

  - maximum five-year accumulative total; or a ....
  - minimum three-year accumulative total.

- *Warehouse Update Requirements:*

  Planning Group members requested the Justice Data Warehouse be updated with additional source data on a *weekly* basis. During JDW Phase I design, Bull will evaluate this requirement for all ICIS data sets targeted for warehouse migration. At this time it is anticipated that:

  - warehouse updates can be executed on a scheduled basis over weekends.
  - some ICIS data will be considered *relatively* static, and can be updated less frequently (e.g., monthly).

- ICIS extracts at county sites can be executed during the week (this will be dependant on network demand patterns during the week).
- ICIS extracts can be coordinated around current production schedules at individual county sites.
- ICIS extracts can be coordinated around current data distribution schedules at individual county sites.

- *Warehouse Purge and Archive Requirements:*

  Warehouse purge and archive considerations were briefly discussed. The discussion, however, was postponed, given that:

  1) at most, there is only one year (i.e., 1997) in which the ICIS system was operating in all counties; and
  2) it is assumed that the warehouse will be populated with data starting in 1997 and later.
  3) it will take a period of time to accumulate the desired number of years of JDW data.

  Purge and archive requirements will be defined after the warehouse has been operating for some period of time (to be defined), and justice-related data volumes have begun to accumulate more significantly.

Deliverables. (See Table 4.2)

5.0 ENVIRONMENT ASSESSMENT

5.1 Technical Infrastructure Assessment.

Definition. Technical Infrastructure Assessment is a set of activities used to evaluate the current technical environments within the selected business areas and their abilities to support a data warehouse. The primary components of architecture to be assessed are: source systems, the target warehouse system (if one exists), networks, and end-user desk top systems. Various components of each will be evaluated, and the results will be compared to the requirements identified by the previous assessment activities. The process will result in the identification of any technical deficiencies, inconsistencies, or existing problems, issues or risks, that could impact a successful warehouse implementation; it will also result in a set of recommendations and alternatives to satisfy the requirements defined.

Overview. Bull performed a Technical Infrastructure Assessment in three areas pertinent to the Judicial Data Warehouse architecture:

- Iowa Court Information System (ICIS)
- Iowa Communications Network (ICN)
- Current mainframe environments

As mentioned previously in this report, Bull met with Polk County ICIS system staff members October 28, 1997 (L. Murphy, S. Runke, et al), to review key aspects of the ICIS system. Subsequent to this, Bull conducted telephone interviews—with ICIS staff regarding Iowa's ICN, December 8 and 9, 1997 (S. Runke); and with ITS staff, regarding the State's current mainframe environment, the week of January 5, 1998 (J. Cullors).

It should be noted that, during these analyses, the *technologies* in and of *themselves* were not evaluated; but rather, their overall architecture and environment, in determining how well they could support a full-scale, production data warehouse. The components identified and evaluated for each system were its hardware platform, operating system, database management system, storage, and communication facilities. Potential warehouse solution evaluations were based on an environment's existing-verses-required resources, capacity, scalability, compatibility and administration.

In an effort to reduce the total costs of the JDW Assessment Project, the Planning Group agreed (per the project's "Statement of Work") to eliminate the assessment of end-user desktop systems. Instead, Bull will identify the recommended desk-top configuration and resources needed to effectively interface with the data warehouse.

Findings / Conclusions. The sections that follow describe the findings for each technology, as well as possible issues that should be addressed prior to warehouse implementation.

- *Iowa Court Information System (ICIS)*:

  ICIS is a statewide application used to support the day-to-day criminal and juvenile court operations, and its related activities. Each of the State's 99 counties has its own database, which is identical in structure to every other county database. The system consists of an Oracle database running on an RS-6000. There is no means to readily access court information from other counties, as the architecture does not allow for exchange of data between counties. Selective data is accumulated at the district level for court scheduling purposes. The table structures, data model, application development, and other support activities are provided and managed by the ICIS technical staff in Des Moines. Changes to the ICIS application and database structure are distributed through ICN.

  ICIS was first implemented in the early 1990's. It was not until mid-1997 that all counties had at least some modules installed. As of October 1997, 21 of the counties were still not fully implemented across all application modules. It was reported that some counties occasionally use ICIS data fields inconsistently– for example, some of the date fields.

  As a result of Bull's evaluation, three tasks have been identified that must be completed as part of warehouse design:

  - Identify all data fields that are not used consistently by all counties, and decide how to resolve their discrepancies.
  - Determine the frequency and nature of warehouse database updates, in relation to individual county operations.
  - Establish rules for deriving or calculating data that is not directly available from ICIS.

- *Iowa Communications Network:*

  The ICN is a voice, data, and full motion video network. It consists of a DS-3 (44.7 Mbps) with a fiber optic connectivity to each of the 99 Counties, three State Universities, a PBS station, and the State Capital. Each of the Counties has its own Local Area Network.

  It is believed that the present network configuration should be adequate to handle the data transmissions for the warehouse. It was reported that there are no throughput problems when transmitting data between the county ICIS databases and their

respective district databases; and between the district level databases up to the central State Court Administrator (SCA) system, at the capital in Des Moines. As part of warehouse design, Bull suggests that the following steps be taken:

- Document the similarities or differences that may exist between the 99 county LANs.
- Determine the actual throughput and bottlenecks for each LAN, to assess the impact on data transfer rates.
- Estimate the impact of data extracts and warehouse downloads, if any, on county operations schedules.

- *Mainframe Environment:*

The State has three IBM-9000 series mainframe computers, each capable of processing 80 or 160 million instructions per second. All three are running MVS-ESA and are scheduled for conversion to OS390 over the next 12-15 months. Table 5.1 provides a high-level description of each system.

Table 5.1: Characteristics of ITS Mainframes
(Named by Location)

Characteristic	Hoover Building	IA Work Force Development	Ames, Iowa
Processing Speed	160 MIPS	80 MIPS	80 MIPS
Operating System	MVS-ESA	MVS-ESA	MVS-ESA
Database	IDMS	IDMS	DB2
Convert to OS390	1999	Mid-1998	Feb 1998
Agency Supported	Human Services, and Others	Work Force Development	Department of Transportation
Processing Priority	On-line Transactions	On-line Transactions	On-line Transactions
Service Level Goal	Sub-second Response	Sub-second Response	Sub-second Response
Capacity at Peak	75%-80%	75%-80%	75%-80%
Connected to ICN	Yes	Yes	Yes

- IDMS Database Issues in a Warehouse Environment: All three mainframes are large enough to accommodate a data warehouse. However, only the Ames-based system with DB2 has a database capable of functioning as a data warehouse.

IDMS is not a suitable candidate because it does not have the architecture to support the rigors of on-line, ad-hoc queries; or to perform efficient analyses using a large number of table joins. Furthermore, as the warehouse grows and the database enlarges significantly, either through ICIS growth or acquisition of other application data, there would (most likely) be a need to move to either a Symmetric Multiprocessing (SMP) or Massive Parallel Processing (MPP) environment. IDMS does not support these architectures.

- DB2 Issues in a Warehouse Environment: The DB2 database could be a candidate for the warehouse. However, it is likely that widespread use of the JDW, on a shared transaction-based database, would severely impact system performance and response-time levels. This is because the DB2 database was specifically designed and tuned to support the on-line transaction processing (OLTP) requirements of the DOT's applications, and not the heavy demands of on-line analytical processing (OLAP) and decision support. It is also expected that, as warehouse data volumes and users grow, the need for parallel processing will grow. Ultimately, it will become increasingly more difficult to obtain the benefits of parallel processing if housed on a DB2-based system. (See Table 5.3 in Appendix C)

  Warehouse implementations utilizing DB2 have also reported a variety of problems, which do not make it the best choice for a medium-sized warehouse with high growth potential (like that of the JDW). Namely, DB2 has:

  - difficulty handling complex queries with more than four table joins.
  - difficulty growing beyond a two-node system.
  - difficulty updating large data volumes.
  - limited parallel processing capabilities.
  - required higher levels of database administration.

  Table 5.2, in Appendix C, provides a high-level description of the three relational database systems under consideration.

Deliverables. (Tables 5.2 and 5.3 in Appendix C)

5.2 Skills and Training Assessment.

Definition. Skills and Training Assessment is a set of activities used to evaluate the current skill sets of the business and IT organizations; and to establish recommended training programs to help successfully implement, operate and use the data warehouse. The process

addresses both technical and functional users, by department and resource type, via small group work sessions and individual interviews. The assessment results in the development of a Skills Assessment Report and a Skills Training Plan.

Overview. Once again, in an effort to reduce the total cost of the JDW Assessment Project, the Planning Group agreed (per the project's "Statement of Work") to eliminate the *skills assessment* portion of this activity, and focus instead, on the *skills required*—to properly support and maintain the warehouse environment. But since no assessment was performed, a skills training plan, based on specific staff deficiencies, could not be developed. Bull did, however, develop a list of skill sets required, by technical role and functional user type.

Findings / Conclusions. Exhibit 5.4 below defines the required skill sets for technical and functional JDW users.

EXHIBIT 5.4: SKILL SET REQUIREMENTS

TECHNICAL ROLES

Database Administrator (DBA):

DBAs are highly skilled technical professionals. The warehouse DBA should possess several years of hands-on experience with one or more relational databases (preferably the recommended RDBMS) of at least 25GB in size, and 50 or more users. The DBA's experience should include:

- High-level proficiency in SQL and Unix programming languages
- Physical database structure administration and management
- Data allocation and data distribution
- Resource management including memory, disk space, and user accounts
- Data security and access control
- Large database backup and recovery
- Database performance tuning
- Database installation and upgrades, including associated database products
- Database vendor liaison
- Data Administrator liaison

Data Administrator (DA):

DAs are system professionals well versed in the business processes supported by the data warehouse. The warehouse DA is a systems analysts with a number of years of experience working with and supporting user organizations such as the Courts, ICIS, or other data sources (potentially) introduced into the data warehouse. The DA's experience should include:

- logical data model development, maintenance and standards.
- use of the SQL and Unix programming languages.
- business rule definition for use in data transformations.
- metadata maintenance.
- data audits (to monitor source and warehouse data integrity)
- data management policies, procedures and standards (e.g., regarding data transformations, audits, purges, archives, etc)
- the administration and use of one or more data access and analysis tools, including development and maintenance of end-user data models.
- User tool training
- User query and reporting assistance.
- User requirements liaison: security, access, problem resolution

FUNCTIONAL USERS

Executive / Manager:

The Executive/Manager user potentially possesses the fewest technical and analytical system skills, and relies heavily on the functionality provided by pre-defined, and automated queries and reports. Executive/Manager users should be experienced with:

- a Windows- or MacIntosh-based desktop system.
- navigating within windows-like applications using control functions and commands, via a mouse and/or menu (e.g., selecting, opening, and closing, saving files; dialog boxes; re-sizing, moving, and closing windows; on-line help; etc.).
- printing documents.
- executing automated and/or parameterized processes from desktop applications.

Knowledge Analyst:

The Knowledge Analyst is experienced at working with detailed data in a decision support role, to satisfy the information and reporting needs of his or her department. In addition to the skills identified for the Executive/Manager, the Knowledge Analyst should possess:

- detailed understanding of business area processes and data.
- detailed understanding of key source system processes and data.
- basic statistical and analytical capabilities (to analyze data for the occurrence of patterns, trends, and changes, etc.).
- familiarity with basic modeling concepts such as entities, relationships and attributes.

- experience with desktop tools such as word processing, file managers, and spreadsheets, etc.
- experience with on-line analytical tools considered a plus (i.e., data access, query, and reporting tools).

Power Analyst:

The Power Analyst possesses the most advanced analytical and technical system skills. This business analyst will develop a solid understanding of the warehouse's functionality and its key underlying database structures. In addition to the skill set identified for the Knowledge Analyst, the Power Analyst may possess:

- experience with more sophisticated analytical tools.
- knowledge and experience with the SQL programming language.
- experience writing and executing complex, pre-defined queries in support of other department managers or analysts needs.
- good understanding of the warehouse logical data model, and end user visual data models.

6.0 LOGICAL DATABASE DESIGN

6.1 Logical Database Modeling.

Definition. Logical Database Modeling is the starting point for warehouse database design. Its process involves system analysis activities, which result in a fully-attributed, third-normal form logical data model, depicting the business entities selected for inclusion to the data warehouse. The model serves as the primary input into the physical database design process; and it helps to maintain proper business focus and perspective during warehouse development. The logical data model also serves as the unifying driver for all successive warehouse modules integrated in the future.

Overview. Bull developed the logical database design over a three-week period, beginning December 8, 1997 through January 9, 1998. During this period, key ICIS data realms, tables, and data elements were studied; a Logical Data Model (LDM) was created; and associated metadata documentation was produced.

- While developing the JDW data model, Bull focused on three main aspects:
  - Agency data needs for the first JDW module.
  - Business functions targeted for future JDW implementations.
  - Design flexibility - to accommodate future module integration, with minimal change to the existing design.
- A number of information sources and references were used to aid Bull in the development of the design:
  - Conceptual Data Model (developed during the Business Discovery Workshop)
  - ICIS Entity / Relationship Diagrams
  - Oracle Designer 2000 Reports:
    - "Entities and their Attributes"
    - "Relationships"
    - "Primary Keys"
  - ICIS "Actual vs. Allocated Storage Report"

Bull began the design activity by analyzing the entities and attributes in the ICIS E/R diagrams corresponding to the areas of interest to Group agencies. Key entities and data elements were identified, along with those entities that were never implemented or are no longer in use.

The JDW Logical Data Model was then developed based on those entities and data elements that are most relevant to agency data needs. JDW primary keys were defined and entity relationships were identified. The model was documented using MS PowerPoint; five JDW data realms were defined:

- Person Data
- General Case Management Data (common to adult and juvenile cases)
- Adult Case Management Data
- Juvenile Case Management Data
- Reference Data

This model can be found in Appendix D labeled Exhibit 6.1: "JDW Logical Data Model.

The last activity performed, as part of the Logical Database Design, was the documenting of user-relevant metadata for each table and data element contained in the logical model. This is information that Bull believes will be useful to end-users by helping them to better understand the data content of the warehouse. As much as possible, this information includes:

- Table name
- Primary key
- Recognition as an independent or dependent entity
- Relationships with other entities
- Data element name
- Data element definition
- ICIS source (table.data element)
- Data format
- Data domain (including valid code values where appropriate)
- Values identified as system-generated or user-assigned (where appropriate)
- Example data values
- Associated business rules
- Listing of follow-up activities
- Assumptions, remarks, issues, concerns
- Identification of a minimum set of administrative data elements

The resulting Word document—entitled "JDW Logical Data Model Documentation: Entity and Data Element Definitions"—should be considered a working document, and as such, is expected to evolve over time (particularly during physical design). This document will be the source of metadata information loaded to the "ERwin®" database design tool (by Logic Works), and can be found in Appendix D, labeled Exhibit 6.2. It should be noted that Bull elected *not* to develop the Logical Data Model and associated metadata within ERwin—as previously stated in the Assessment Proposal—but rather, will document this data as part of physical design. This was done in an effort to provide a more direct means to document and communicate questions and requests between remote team members—since Bull was not able to access and analyze ICIS data directly, via on-line access.

Findings / Conclusions. The findings and conclusions of the Logical Database Design activity are summarized below:

- *Data entities identified in the JDW Logical Data Model:*

  - Person Realm:
    - > Person
    - > Person-Demographics
    - > Person-Physical-Attributes
    - > Person-Address
    - > Person-Alternate-Name
    - > Person-Name-Change
    - > Person-Related
    - > Person-Judge
    - > Person-Attorney
    - >

  - General Case Realm:
    - > Case
    - > Case-Event
    - > Case-Jury-Trial
    - > Case-Closed
    - > Case-Related

  - Case-Role Entity:

    A relationship entity used between the Person and Case entities to handle the M:M relationship that exists between them. Could be considered part of either the General Case or Person data realms.

  - Adult Case Management Realm:
    - > Charge-Disposition
    - > Penalty
    - > Penalty-Dollars
    - > Penalty-Time

  - Juvenile Case Management Realm:
    - > JCS-Incident
    - > JCS-Charge-Disposition
    - > JCS-Intake-Decision
    - > JCS-Penalty
    - > JCS-Penalty-Dollars
    - > JCS-Penalty-Time
    - > JCS-Informal-Agreement
    - > JCS-Placement
    - > JCS-Placement-Status
    - > JCS-Community-Service
    - > JCS-Community-Service-Status

  - Reference Data Realm:
    - > Master-Code
    - > Case-Code
    - > Event-Code
    - > Charge-Code
    - > Financial-Code

    (* initial set; more anticipated)

- *Data entities not in use on ICIS:*

  Numerous ICIS tables are no longer in use. Those that are most relevant to the JDW include:

  > People-Attorney
  > Case-Trial-Information

  If users are interested in analyzing data relative to jury trials, data must be extracted from the OmniTec Jury Management subsystem, as part of a subsequent implementation phase (i.e., module).

  It is also worth noting that a vast majority of counties are using only a small subset of the ICIS JCS application. In fact, Bull was informed that fewer than 12 counties are using the complete (or nearly complete) set of functionality. The subset of JCS tables that is being populated by most counties includes:

  > JCS-Incident
  > JCS-Charge
  > JCS-Intake-Decision

- *Follow-up Activities:*

  There are number of follow-up activities that must be addressed before physical design can truly progress. These include data related issues and items that must be identified, verified, defined, or resolved. Because Bull was not given on-line access to ICIS, many of these items could not be adequately addressed or researched. It is expected, however, that most can be resolved via work sessions held with Planning Group members, and with ICIS staff members (although some items might be best assessed on-line). For complete sets of follow-up activities, per JDW table, see Appendix D, Exhibit 6.2, "JDW Logical Data Model Documentation: Entity and Data Element Definitions".

Deliverables. The findings and conclusions identified above are based upon the detailed information provided in the documents below.

- Exhibit 6.1: JDW Logical Data Model: First Business Module (Draft v2)
- Exhibit 6.2: JDW Logical Data Model Documentation: Entity and Data Element Definitions.

7.0 Assessment Recommendations

7.1 Recommendations Summary.

Bull considered three alternative relational database solutions– Teradata, Oracle, and DB2 (which is presently installed on the State's mainframe computer)—as possible foundations upon which to build the Justice Data Warehouse. After careful consideration of the State's current systems environments, and the expected use of the JDW over both the near and long term, *Bull recommends **the Teradata-based NCR solution** as its warehouse solution of choice*. This solution has been estimated at a total of **$1,185,064**, and consists of hardware, software and integration services. The total has been divided into two pieces—hardware / software, and services. The hardware / software estimate is based largely on actual price quotes obtained at the time of solution preparation; the services estimate was developed using Bull's pricing model for NCR / Teradata warehouse projects.

To provide Planning Group members with a quick synopsis of this solution, including tool recommendations and a high-level implementation approach, a solution summary has been furnished in Exhibit 7.1 below. A complete discussion of the solution follows this exhibit.

Exhibit 7.1: Recommended Solution Summary

Solution Components

Hardware / Software:	**$ 596,578**
Integration Services:	**$ 588,486**
Total Solution:	**$ 1,185,064**

SYSTEM COMPONENTS

System Hardware / Software: **$ 348,450**

- NCR 4700 Single-Node Hardware System
- Unix Operating System
- Teradata Relational Database Management System
- RAID 5 Disk Array / Subsystem
- 128 Licensed Users

System Backup and Recovery: **$ 44,730**

- IBM Host Channel Connect Alternative (Recommended)
- Teradata Tape Library System Alternative ($ 60,995)

System Maintenance and Support: **$ 122,072**

- Second-Year Maintenance / Support Contract ($ 122,072)
- 1 Full-time Database Administrator (New Hire)
- 1 Full-time Data Administrator

DATA ACCESS & ANALYSIS TOOLS

General Query, Reporting and Presentation: **$ 36,745**

- 50 GQL Desktops ($695 / copy)
- 1 GQL Administrator ($ 1,995)

Geographic Mapping: **$ 2,200**

- 10 MapInfo / County-level Mapping Sets ($ 125/copy)
- 10 MapInfo / City-level Mapping Sets ($ 95/copy)

Statistical Analysis: **$ 7,950**

- 10 SPSS Base Statistical Modules

Metadata Facility: **$ 34,431**

- Logic Works ERwin/ERX (2 users) ($ 6,990)
- Logic Works ModelMart ($ 9,995)
- NT-based Server ($ 17,446)
  (w/ MS WinNT Server, SQL Server)

- Bull-Developed User Query Application
  (included in integration services estimate)

IMPLEMENTATION APPROACH

1. Develop full-scale JDW physical data model.
2. Build warehouse prototype using Bull's Competency Center. (in Phoenix)
3. Evaluate prototype. training included
4. Install JDW hardware / software; generate JDW database.
5. Migrate prototype data to JDW database.
6. Populate first module of full-scale JDW.
7. Test and move JDW into production.
8. Extend access to JDW users.

7.2 Solutions Approach.

When assessing the three alternative RDBMS solutions–Teradata, Oracle, and DB2—Bull considered a number of factors as they related to each database, including the:

- intended use of the Justice Data Warehouse by CJJP and other agencies in the foreseeable future.
- parallel processing features of each database.
- level of on-going technical and administrative support required.
- ability and ease of the system to handle future demands and growth.
- overall system cost.

A Teradata data warehouse of the size suggested for the JDW, will require at most, only one DBA to manage it. The database does not have to be manually partitioned or reorganized, indexes do not have to be rebuilt, and a fully normalized data model can be implemented with very few deviations from the logical model. Furthermore, queries can run "as is" without having to be fine-tuned by a DBA.

By comparison, database management systems like Oracle and DB2, which were designed originally to support OLTP environments, have to be manually partitioned and reorganized, and indexes partitioned

and rebuilt, after physical or logical changes. In addition, the physical model will often differ markedly from the logical model since it must be highly de-normalized to enhance performance. Many queries must be reviewed and tuned by the DBA. Highly complex queries frequently have to be reduced to smaller sub-queries to facilitate processing.

In practice, these OLTP-based databases require tables and indexes to be manually distributed over many partitions. As the data builds, the data distribution across partitions will skew over time, unbalancing the data allocation across the system disks. Partitions must then be manually adjusted to compensate for this unbalance. Manual partitioning means physically mapping out and placing the data on a disk—and then keeping track of them. These tasks become burdensome as the database grows, and usually require additional staff to administer and manage the database.

The Transaction Processing Council (TPC) is a non-profit corporation, founded to define and regulate transaction processing and database benchmarks, and to disseminate objective, verifiable performance data to the industry. The benchmark that is used to evaluate complex decision support applications is the council's "TPC-D" benchmark. TPC-D models a decision support environment in which complex, ad-hoc, business-oriented queries are submitted against a large database. These queries may access large portions of the database and typically involve multi-table joins, extensive sorting, grouping and aggregation, and/or sequential table scans.

The purpose of executing a TPC-D is to assess the cost/performance of a particular system, supporting a decision support type of application. To date, Teradata is the only RDBMS to publish the TPC-D benchmark with one terabyte of raw detail data (i.e, does not include overhead such as indexes, spool space, etc.); and it is the only RDBMS to publish with more than one user "stream" accessing the database during benchmark execution.

Other TPC reports provide documented and audited evidence, that the OLTP databases require significantly more work to accommodate complex queries than that needed for Teradata. These labor intensive tasks make parallel processing highly conditional and subject to delays. This conditional parallelism means that queries cannot be run "as is" and must be reviewed by DBAs. The Gartner Group has found that "Teradata remains the most proven solution at the high end (of data warehousing)."

Tables comparing key RDBMS features of Teradata, Oracle, and DB2 are presented in Table 5.3. The distinguishing features of automated data handling, scalability, unconditional parallel processing, and simple system management are clear benefits of Teradata. The key processing feature of "parallelism" is compared for the three databases

in Table 5.4. As is illustrated, Teradata offers a substantial benefit over the other databases. The comparison of the cost of a Teradata solution (Table 7.2) vs. an Oracle solution (Appendix E, Table 7.4) also shows an advantage for Teradata.

Bull recommends that CJJP move forward with a Teradata solution in a phased implementation approach, as outlined in section 7.3. A key part of this approach includes the development and limited use of a "Proof-of-Concept" prototype. The prototype will enable the Planning Group to:

- obtain hands-on experience with the data warehouse and the GQL data access tool.
- realize actual decision support benefits while performing their jobs.
- generate enthusiasm and acceptance for data warehousing.
- help secure the necessary funding and commitment required for a full-scale implementation.

7.3 Steps Toward Implementation.

The steps listed below outline the key phases or activities of a high-level implementation plan. The time-line for these activities will depend largely on the State's urgency, staff availability, and funding levels. Assuming the State is prepared to initiate efforts to build a data warehouse, and Bull has the necessary resources available, a data warehouse can be implemented within 12 or fewer months.

1. Develop the physical data model for the full-scale database.
2. Build a prototype warehouse in Bull's Phoenix Competency Center to respond to the 14 questions in Exhibit 3.9.
3. Use and evaluate the prototype for 30 days; utilize GQL to access data.
4. Purchase and install hardware / software at the State's facility; generate the full-scale JDW database structure.
5. Migrate prototype data to the State's JDW platform and database.
6. Expand database to populate all fields in preparation for full-scale JDW production.
7. Test and move the first full-scale JDW module into production.
8. Extend access to JDW users.

7.4 System Hardware and Software.

The configuration Bull recommends is a Teradata RDBMS running on an NCR 4700 processor with a Unix operating system. Bull's analysis showed that the database will grow to roughly 20 GB of *raw* data over

the next five years. The recommended configuration can grow to nearly twice this volume of data, without the need for additional system hardware or software components.

Since there were no performance requirements stipulated by the State, none are implied by the configuration below. However, the configuration presented is sized to accommodate the five-year volume projections, and to support over 100 users. The list prices for the components in this configuration are shown below. Annual maintenance is not included in the list prices, and will be an additional cost.

Table 7.2: Teradata HW / SW Configuration: Summary Level

		List Price
1	NCR 4700 single node system	$160,000
1	Administrative Work Station with software (for up to 12 nodes)	27,100
3	9-GB UNIX root disks	8,250
1	Disk array subsystem (for up to 20 disks)	55,000
20	RAID-5 disk array	32,000
1	Teradata RDBMS for to 128 users	48,000
1	Teradata client node license	8,000
1	Teradata Manager for UNIX	10,100
	TOTAL LIST PRICE	**$348,450**

A detailed configuration for the Teradata solution can be found in Appendix E, Table 7.3. Also, an alternative solution's configuration has been provided in Appendix E for the Planning Group's review. This is an Oracle-based solution using a Bull "Escala" platform (a Unix-based RS6000). Both summary level and detailed level configurations are presented (Tables 7.4 and 7.5 respectively).

7.5 Database Maintenance and Support.

Maintenance and support of a data warehouse usually involves three key areas: database administration, database tuning, and query tuning. Database Administrators (DBAs) are all too familiar with the arduous and sometimes frequent task of reorganizing a database. System performance degrades when data is poorly distributed across disks, indexes are out of order, or data fragmentation is too high. When this occurs, the data in a database must be off loaded and subsequently reloaded to improve the systems performance.

Teradata, unlike almost every other RDBMS, does not require this activity due to the uniform and predictable manner in which data is distributed across the system's disk arrays. Teradata uses an index "hashing" algorithm to calculate and manage data distribution across disks. Not only is time not needed to reorganize the database (which adds to the time the system is available) but system performance is more stable and less likely to degrade.

Another administrative task that requires significant downtime is the physical expansion of the data warehouse. As the storage requirements increase, to accommodate other agencies' data; or as additional processors are required to support increased workloads, most database solutions will require the data warehouse to be taken off line, additional hardware to be installed, and a database reorganization to be performed This process can potentially cut *days of time* from the users' "window of availability".

Teradata's downtime, on the other hand is significantly less. Once the additional disks have been installed, the system can be brought immediately back on-line. When Teradata's reconfiguration utility is executed, all warehouse data is automatically and evenly redistributed across the new and old system disks, including new processors, if they were added as well. No additional time-consuming database reorganization is required.

DBAs also spend a lot of time tuning queries generated by end user tools. The code that is generated by these tools is typically very generic, structured and unabridged. And although syntactically correct, this code will not likely result in the most efficient processing times. Therefore, DBAs are often required to manually optimize tool-generated-code to improve query response times, and more importantly, to prevent any serious impact to warehouse performance. (Table 5.2 in Appendix C provides a comparative summary of database features for Teradata, Oracle and DB2.)

Teradata, on the other hand, does not require manual DBA intervention. First, its superior parallel features make database design concessions unnecessary (i.e., denormalizing the database). Secondly,

Teradata's query optimizer supports SQL "as written"; therefore, no matter how poorly or unabridged a query may be written, the same answer will be returned using the same execution plan each time. (Table 5.3 in Appendix C provides a comparative summary of the 17 levels of parallelism for Teradata, Oracle and DB2.)

7.6 Backup and Recovery.

A warehouse backup and recovery strategy and process is *strongly recommended* and should be implemented. Two options are available to the Planning Group: The first is to incorporate a Teradata-specific tape library, and associated software components, directly into the warehouse configuration; the second is to use an IBM host system in concert with Teradata-specific channel connects, and MVS-compatible software. The Planning Group's decision to use the host backup and recovery option over the Teradata tape library should be based on the availability of existing host operations staff, and the speed of the host system. The estimated costs for these two alternatives are listed below:

	List Price
Teradata Tape Backup and Recovery - Includes a 1-Drive / 10 slot tape library system with associated software.	$ 60,995
IBM Host Backup and Recovery - Includes channel-connect components and Teradata software for MVS (base configuration; optional components available, if required).	$ 44,730

7.7 Data Access and Analysis Tools.

Below are Bull's recommendations for the specific tool sets of interest to the Justice Data Warehouse Planning Group. A brief functional description of each is presented along with component definitions and pricing necessary to implement the product into the JDW environment. Similar information can be found for alternative tools in Exhibit 7.6 of Appendix E.

- *Query, Reporting and Presentation Tools:*

  Bull recommends Andyne Corporation's *GQL for Windows* product (i.e., Graphical Query Language) as the access tool of choice, for all users of the Justice Data Warehouse. GQL is a Windows-based, GUI tool that satisfies the Planning Group's minimum query, reporting and presentation requirements, as defined in Exhibit 4.1.

This tool will enable users to develop ad-hoc (as well as pre-defined, automated) queries and reports, without having to write program code directly. Users can "point and click" on objects in a visual data model representing data tables, relationships, and data elements. GQL also allows users to request information on expected run times and result-set sizings. This will enable users to refine their processes, thereby avoiding excessive run times or the receipt of enormous result sets, from an accidental or improperly structured query.

GQL is also a highly compatible and extendable product. Its result sets can be made available to any product that supports Dynamic Data Exchange (DDE) and Object Linking and Embedding (OLE); this is roughly 95% of all Window products available on the market today. (For more information on the GQL product set, visit Andyne's Web site at "http://www.andyne.com/".)

The following are the components and pricing required to initially implement GQL in the Justice Data Warehouse environment:

		List Price
1	GQL Administrator	$ 1,995
50	GQL 4.1.1 User Desktop ($695 per copy)	$ 34,750

- *Geographic Mapping Tool:*

Bull recommends the PC-based GIS tool *MapInfo*, by the corporation of the same name, as the mapping tool of choice. This tool comes fully integrated with the GQL product set, and is fully supported by MapInfo, per its partnership with the Andyne Corporation. The tool enables users to map query results directly into their corresponding geographic regions, to promote better decision making via data visualization and spatial analysis.

MapInfo's mapping engine has been fully integrated and packaged into the GQL product set, and is provided automatically when GQL is purchased. MapInfo is "enabled" by purchasing and installing one or more "geo-sets", or levels of geographic detail, with GQL. For example, geo-sets of the State of Iowa are available at the county, city, and street levels (and potentially, at other levels of detail, such as zip codes, voter registration districts, school zones / districts, etc.). When used in combination, users can quickly detect patterns and trends at higher levels, and subsequently drill down into more granular levels, to perform more detailed spatial analysis. (For additional information on MapInfo, visit their Web site at "http://www.mapinfo.com/")

Price is a function of the geo-set(s) selected. The price per-seat for the geo-sets available for the State of Iowa is provided below. Each set is considered an independent mapping layer, and must be purchased separately (i.e., a higher level geo-set is not comprised of the lower level(s) beneath it).

	List Price
County-Level Geo-Set	$ 125
City-Level Geo-Set	$ 95
Street-Level Geo-Set (price includes addresses, landmarks, and regular data updates)	$ 1,995

- *Statistical Tool:*

Bull suggests the use of the PC-based statistical tool *SPSS for Windows 95* (i.e., "Statistical Product & Service Solutions"), for statistical analysis and presentation. SPSS is an extremely robust and mature product that has been on the market for nearly 30 years. It is also a package in which some Planning Group members are already familiar, and have acquired a level of expertise.

Like many other Windows-based products, SPSS can be easily interfaced with GQL (as well as MapInfo). One example that illustrates the degree of integration possible, is the ability for end users to develop an automated process from within GQL, which, when executed via the push of an "Executive Button", can:

- execute a query;
- convert its result set into a form that is compatible and useable by SPSS;
- forward the output to the SPSS module;
- activate and open SPSS;
- display the results from within SPSS, where they are immediately available for further statistical evaluation.

(Bull has verified this capability with SPSS PC-based versions 7.5. Lower product versions may also provide this capability, but were not verified.)

The price per-seat for *SPSS Base 8.0 for Windows* is provided below. Although this base package is a very comprehensive set of functionality, SPSS also offers over 30 other modules that can be used in concert, to further extend its functionality within targeted areas. A per-seat price for many of these modules has also been

provided. For additional information on SPSS products, visit their Web site at "http://www.spss.com/"; select "Specifications" for a Base 8.0 product overview, or from the pull down menu, for descriptions of the other software modules available.

	List Price
SPSS Base Product	$ 795
Additional software modules	$ 495

- *Metadata Facility:*

Information about the data in a warehouse is cataloged and stored using a metadata facility. These utilities enable users to engage the data warehouse more effectively and efficiently, in performing analytical and decision support activities. While data definitions are an outgrowth of the database design process, metadata is generated by a system running alongside the warehouse database, keeping track of the current data elements, definitions, relationships and changes as they occur.

The metadata facility recommended by Bull for use with the Justice Data Warehouse is an integrated solution comprised of three functional components:

- Database design tool
- Data model management tool
- Metadata query tool (to be developed by Bull)

Metadata defining the JDW will be captured and defined via an automated database design tool known as *ERwin®*, by Logic Works. As Bull utilizes this tool to develop and document the JDW's logical data model, information specific to its entities, data elements, and relationships will also be generated and stored. When the modeling activity is complete, ERwin will serve as a repository to house the metadata information, as well as a CASE tool, to generate the physical JDW database structure.

A model management tool known as *ModelMart®*, by Logic Works, is the second component of Bull's recommended metadata facility. A companion product that works in concert with ERwin, ModelMart enables multiple administrators to access and share the JDW data model(s). For example, while the DBA accesses the model to update an entity—to reflect a recent database change—a DA can be developing a new section of the model, to support the next business area to be implemented into the JDW.

A second function of the ModelMart component is to provide *shared access to metadata* by multiple JDW *end users*. Because

the tool manages this access, DAs will not need to spend time administering and distributing updates to individual users' metadata files each time a change to the warehouse database and model is made. In turn, users can be confident in knowing that, whenever they access the metadata repository, they will receive the most up to date metadata available.

The third component of Bull's recommendation is a query application that will enable end users to interface with the ERwin repository, to gain access to JDW metadata. Although there are products on the market today that can meet this need, most provide a comprehensive set of functionality (as well as price) that goes beyond the immediate needs of agency users. Therefore, in an effort to contain JDW appropriation costs, it is Bull's intent to design and develop an application that will match the needs and requirements of agency users today. It is, however, strongly recommended that, as the warehouse evolves over its first two years, the Planning Group invest in Logic Works' companion metadata directory, "*Universal Directory*®", to extend the metadata management capabilities of the JDW. This tool will help make the JDW easier to build and maintain over time. One essential capability it provides is the means to programmatically map source data to target data, and define the transformation rules involved. When ERwin, ModelMart, and Universal Directory are fully integrated, a comprehensive inventory of warehouse business and technical metadata will be provided.

Lastly, many metadata facilities operate in environments that may be different or separate from the warehouse itself. This is because many of the packages available today are designed for smaller operating system environments such as *Windows '95* or *Windows NT*. Such is the case with the ERwin design tool. ModelMart, in turn, must be run on a platform that supports the Microsoft SQL Server database, or another commercial database such as Informix, Oracle or Sybase. Given these requirements, Bull has elected to implement the components of its metadata solution on a NT Pentium II-based server, running Microsoft's Windows NT operating system and Microsoft's SQL Server database. This configuration, along with its associated pricing, is listed below. The prices for Universal Directory's base product and associated end user *Explorer* product have also been included, for future reference to the Planning Group. These components operate on the same NT-/ SQL Server-based platform, and can be readily integrated into this environment.

Metadata Solution Components:

	List Price
Logic Works ERwin/ERX (Database modeling and design tool; 2 users)	$ 6,990
Logic Works ModelMart (Model management tool)	$ 9,995
NT Pentium II-based Server (~ Market price)	$ ~ 4,000
Microsoft Windows NT Server (NT operating system SW; 50 users)	$ 2,447
Microsoft SQL Server (NT database software; 50 users)	$ 10,999
Total	$ 34,431
Logic Works Universal Directory (Database modeling and design tool)	$ 34,490
Logic Works Explorer (End user browser tool for 50 users; per-seat price $ 3,000.)	$ 150,000
Additional / Future Cost	$ 184,490

7.8 Desktop Resource and Configuration Requirements.

Resource and configuration requirements for end users' desktops will be largely dependent upon the warehouse tool sets installed. Two recommendations are provided:

- A base-level configuration for those individuals whose only access to warehouse data will be via the GQL package. No other warehouse analysis tool will be added to their desktop, including MapInfo geo-sets or SPSS. This configuration might be typical of an executive-level user or some Knowledge Analysts.
- An expanded configuration for those individuals who will be utilizing all tool sets to access and analyze data in the warehouse. This configuration might be typical of the Power Analyst and some Knowledge Analysts.

	GQL-Only (Min / Recom'd)	**Complete Tool Set** (Min / Recom'd)
Processor	486	486 / Pentium
Operating System	Win 3.1 / Win '95	Win 3.1 / Win '95
Memory	8 MB / 16 MB	16 MB / 32 MB
Avail Disk Space	20 MB / 50 MB	120 MB / 200 MB
Monitor	VGA / SVGA	VGA / SVGA
CD-ROM Drive	Required	Required

7.9 Warehouse Security.

In an effort to protect the Justice Data Warehouse from unauthorized access, warehouse security will be implemented at four levels of warehouse architecture:

- Network Level: using current ICN topology, policies, and practices.
- Operating System Level: using personally-assigned Unix IDs and passwords.
- Database level: using standard Teradata functionality.
- Application level: using tool utilities in combination with Teradata functionality.

Database security will be based on the type of access assigned at the agency level. It will be implemented at two levels of the database—the data "realm" level and the table level—by employing standard database practices (e.g., "User Groups", database "Views"), and commands sets (e.g., Grant, Revoke, etc.). These two levels of database security, along with the three other architectural levels, should provide the warehouse with a high degree of protection, both internally and externally to State-based agencies.

If desirable, Bull can also provide additional security *management* options via its own integrated enterprise security management product set, known as ISM™ (or help the State select a third party software package, if preferred). This line of products will become more appropriate as the warehouse is extended across additional users and agencies, and managing JDW security becomes increasingly more cumbersome and complex.

7.10 Warehouse Location.

There are two key points to consider when deciding where to locate the Justice Data Warehouse.

1. The JDW will require one full-time Database Administrator to maintain and support the database; as well as one full-time Data Administrator, to support the user communities in their use of the warehouse.

2. The NCR4700 system does not require a raised-floor, climate-controlled environment. Therefore, the Justice Data Warehouse can reside as easily in an office environment, as in a computer center.

At first, it would seem logical that the ICIS systems organization should provide the administrative support functions, given their knowledge and experience with relational databases—in particular, the ICIS system. However, given their current workload and responsibilities, the ICIS organization does not have the staff or the resources to support the JDW. A second candidate organization, ITS, also *does not* have the staff or resources necessary; and because they are a mainframe-based service organization, they do not possess the significant experience or skill sets required to support a relational database or large-scale data warehouse.

Given these two points, it is Bull's recommendation that the State budget for two *full-time* persons to provide the necessary DBA and DA support. In particular, it is recommended that the State hire a DBA, or contract with Bull or another vendor to supply this function. And given the fact that the warehouse can be located in any

environment, i.e., in an office or computer center, the decision is not so much one of *where* the JDW will be located; but rather, *who* (organizationally) will take responsibility for it, and absorb the cost of the additional headcount.

From Bull's perspective, the logical choice is the organization that has the knowledge of the ICIS source system and an established relationship with its user communities: i.e., the ICIS systems organization. However, recognizing that this is not Bull's decision to make, it is recommended that the decision be made *prior to the start of warehouse development and implementation.* This course of action would enable the two new resources, if hired in time, to take part in the JDW's implementation, and to learn their job responsibilities from the "ground up", while experienced resources are still on site.

8.0 APPENDICES

8.1 Appendix A: Business Discovery.

Exhibit 3.1	Draft of Agency Needs for ICIS Data
Exhibit 3.2	Business Discovery Guide
Exhibit 3.3	Business Discovery Worksheet
Exhibit 3.4	CJJP Business Discovery Worksheet
Exhibit 3.4B	DOM Business Discovery Requirements
Exhibit 3.5	LFB Business Discovery Worksheet
Exhibit 3.6	DIA / OPD Business Discovery Worksheet
Exhibit 3.7	DPS Business Discovery Worksheet

Questions and Data Requirements

Draft of Agency Needs for ICIS Data

The attached draft document represents what CJJP has collected and documented to date regarding agency needs for ICIS data. Please note that, beyond discussions prior to receipt of grant funds, we have not received needs documentation from the departments of Public Safety or Corrections (or Human Services, who have been invited to join the group).

Please note that the document was compiled from CJJP interviews with agency representatives. As such, if these agencies were to review this draft, they may indicate additional needs that are listed but which they did not voice a need for in the interview (therefore, need for some items may be underrepresented).

Many of the listed needs revolve around several critical issues that a Justice Data Warehouse would address, including:

- Improved information on fines and fines collection
- Assessment of indigent defense needs and projection of indigent defense costs
- Improved assessment of impact of law changes (on courts, corrections, etc.)
- Improved knowledge of juvenile justice trends and ability to assess potential impact on juvenile and adult criminal systems of proposed changes in juvenile laws

What CJJP currently collects from the courts:

- Adult criminal charges, dispositions and sentences (excluding simple misdemeanors, scheduled violations and probation revocation hearings). Information is obtained from the courts *after sentencing*. Data may be compiled in charge-based, conviction-based or offender-based tables.
- Juvenile delinquency referrals, allegations, intake decisions, adjudications and dispositions. Data may be compiled in case-based, decision-based or offender-based tables. This project is in final testing phase, and is not yet fully implemented.

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(Exhibit 3.1)

Agency Needs for ICIS Data

What is Needed:	Who Needs:
Criminal charges/convictions:	
Fines & fines collections rates (how old are unpaid fines?; stats by type of fine (scheduled viol's, felony, misdemeanor, etc.); tie paid/unpaid fines with the sentence record; compile fines data by fiscal year; ability to distinguish waived fine amounts)	DOM, Governor's Office, Legislature, AG, CJJP, Rev & Finance
Restitution (How many orders? How much paid? What's the amount of unpaid restitution versus amount ordered to pay?)	AG, CJJP
Community service (How may orders? How many hours ordered?)	CJJP
Offender-based (tracking by most serious offense) *and* offense-based statistics	Legislature, Public Defender, CJJP
Demographic information (especially race and sex of offenders)	Legislature, CJJP
Ability to identify individuals with charges in more than one county	DOM, Governor's Office, CJJP
Ability to identify individuals whose most serious offense is non-violent (such as a drug offense), but who also have current violent offenses	Legislature
Improve assessment of use of jails (through inclusion of simple misdemeanor and contempt data)	CJJP
More up-to-date data on charges/outcomes (currently data are collected following sentencing – need data based on charge date as well as sentencing)	DOM, Governor's Office, Legislature, AG, CJJP
Scheduled violations (Code citations, amount, tie with fines record)	DOM, Governor's Office, Legislature, CJJP
Simple misdemeanor charges/outcomes (in addition to all other offense levels)	DOM, Governor's Office, Legislature, CJJP
Case processing times (by offense class, offense type)	DOM, Governor's Office, Legislature, CJJP
Impacts of law changes (more up-to-date data on charges, simple misdemeanor charges/outcomes, case processing times)	DOM, Governor's Office, Legislature, CJJP

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(Exhibit 3.1)

Agency Needs for ICIS Data

What is Needed:	Who Needs:
Cost per case (for each level of felony, misdemeanor)	DOM, Governor's Office, Public Defender, CJJP
Predict indigent defense costs (case processing times, identify cases that are handled by indigent defense, cost per case)	DOM, Governor's Office, Public Defender, Legislature, CJJP
Measure plea-bargaining?	Legislature
Probation revocation hearings and outcomes	CJJP
Sentence reconsideration hearings and outcomes	CJJP
Track waivers to adult court	Legislature, AG, CJJP
Contempt of court by type (nonpayment of fine, domestic abuse, probation violation, etc.), including outcomes (jail, fine, etc.)	Legislature, CJJP
Ability to eventually "tie in" to DOC database to track offender recidivism, eventual outcomes of deferred judgements, probations, tracking of shock probations, etc.	DOM, Governor's Office, CJJP
Ability to extract data to fill in fields on other agency's databases (such as offender name, crime, sentence, etc.)	DOC, DPS
Juvenile justice:	
Juvenile court intake (offender-based *and* offense-based stats; by offense class and offense type)	AG, CJJP
Delinquency filings/outcomes/services (offender-based *and* offense-based stats; by offense class and offense type)	Legislature, AG, CJJP
Demographic information (especially race and sex of juveniles)	Legislature, AG, CJJP
Ability to identify individuals whose most serious offense is non-violent (such as a drug offense), but who also have current violent offenses	Legislature

DRAFT

(Exhibit 3.1)

Agency Needs for ICIS Data

What is Needed:	Who Needs:
Track re-offending by delinquents (this is an area that need standardization among the districts)	AG, CJJP
Eventually connect with other agency systems (DHS, etc.) to track juveniles (through various services, into adult criminal court, recidivism in general and for youth in various services such as diversion, training school, etc.)	Legislature, AG, CJJP (mandate under Iowa Code section 216A.138)
Child in Need of Assistance (CINA) filings/outcomes	Legislature
Of CINA or delinquent youth, what services have they received in the past?	Legislature
Of CINA or delinquent youth, how many ended up in the adult criminal system? And what services had these youth received?	Legislature, CJJP
How may youth would be affected by new fees (for delinquents, runaways)? And how many will pay it?	Legislature
How many youth qualify for "shared jurisdiction" (query by age ranges, certain crimes within a given time period)	AG, CJJP
Other:	
Restoration of citizenship	DOM, Governor's office
Firearms rights	DOM, Governor's office
Pardons	DOM, Governor's office
Divorce	Legislature
Child support (including garnishment by type)	Legislature
Adoptions	Legislature
Domestic abuse restraining orders	DPS, CJJP

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(Exhibit 3.1)

Agency Needs for ICIS Data

What is Needed:	Who Needs:
Sex offender registry data	DPS
Issue: quality of data; ensure "clean" data, identify data quality problems so that we may address them – push for standardized data entry in critical fields	**Legislature, CJJP**

Justice Data Warehouse Project:
Business Discovery Guide

This document is to be provided to each of the seven State agencies participating in the Assessment Phase of the Justice Data Warehouse. It is intended to guide agencies in identifying specific business information needed to assess how a justice warehouse solution can be best applied—to help them meet their specific business goals and objectives, and improve their levels of service provided to their State "customers".

I. Business Discovery Objectives:

[Business Discovery is the first of two activities comprising Bull's "Business Assessment."]

Focuses on the identification of business functions, issues, and needed capabilities.

Facilitates a cross-agency business understanding.

Facilitates a shared vision of the Justice Data Warehouse.

II. Business Discovery Process Summary:

For Each Agency Individually:

- Identify the *business functions* performed by the agency.
- Identify the *critical business issues* impeding the agency's ability to achieve (each function's) business goals and objectives.
- Assess the *impact* of the issues on the agency.
- Assess the *value-add* to the agency, if the issue is resolved.
- Assess a relative priority for each issue, based on agency impact and value-add once resolved.
- Identify the *functional capabilities* needed to resolve each issue (*not the technology* required).
- Identify how *achievement or success* will be defined / determined for each issue.

For All Agencies Collectively:

- [*To be performed by the Planning Group once all participating agencies have submitted their Business Discovery information.*]
- Define the *scope of a full-scale JDW implementation* by prioritizing all issues across all agencies.
- Define the scope of each warehouse *iteration* to be designed and implemented, by selecting specific agency(s), business functions and/or issues to be addressed by each iteration.
- Select the first iteration to be implemented into the JDW (This may also be the area for the "Proof-of Concept" prototype).
- Define a Justice Data Warehouse Roadmap by sequencing and timeboxing the iterations.

III. Business Discovery Steps (Reference "Business Discovery Worksheet"):

1. **Agency Name**: Provide agency name

   E.g., The CJJP Division

2. **Business Function**: Define one judicial business function that your agency performs. *Use a separate form for each function identified.*

   E.g., Monitor and report on statewide criminal filing trends.

3. **Key Goals / Objectives**: List the goals and objectives that are pertinent to the business function defined. Number each goal and objective defined; these numbers will be used to associate the goal or objective with a specific business issue(s), defined in the lower section of form. Qualify and/or quantify each as appropriate.

   E.g., 1. Monitor criminal filing trends on a weekly basis across all State counties.
   2. Detect sudden changes in filing trends in a timely manner: flag and report all trends to the Public Defender's Office that indicate a +/-10% change from prior week's activity.
   3. Provide standard criminal filing activity reports (X, Y, Z) to the Public Defender's Office on monthly basis, prior to the ABC legislative committee meeting.

4. **Key Business Issues, Problems, or Areas for Improvement**: Identify the issues the agency encounters trying to perform the business function, or that inhibits the agency from meeting its stated goals and objectives. Use one row in lower portion of worksheet for each issue identified. If appropriate, identify the specific goal or objective by number, in the adjacent column called "Assoc'd Goal (Above)", with which the specified issue is associated.

   E.g., 1) Can not easily monitor filing trends statewide due to the lack of a direct and efficient means to access data from the distributed county-based ICIS system. ["Assoc'd Goal" = 1]

   2) .....

5. **Impact or Cost of Issue**: Identify the associated impact(s) or cost(s) an issue has on the business function, the agency directly (or indirectly), other agencies, and/or on the State. Describe the impact or cost using dimensions like those suggested below; quantify and qualify whenever possible:

   - accountability
   - communication
   - control
   - credibility
   - data (e.g., consistency, accuracy, timeliness, volume, availability)
   - dollars
   - labor resources
   - loss of opportunity
   - repetition (e.g., in data collection, reporting, analysis, etc.)
   - time
   - whole "picture" / perspective
   - work effort

   E.g.: A) - Labor intensive: requires 3 people working 50% of their time to manually analyze ICIS reports each day.
   - Erroneous results produced: Analysis leads to wrong conclusions ~ once every four to six weeks, due to manual methods used.
   - Costly: ~ $XX,000 each week to perform analysis
   - Credibility: the ABC legislative committee continues to look unfavorably at Division's performance and its questionable results; CJJP may risk funding for this function–could result in layoffs.

1. **Value-Add if Issue Resolved**: Identify the value-add or benefit anticipated—to the function, the agency, other agencies, and/or the State—if the issue is resolved. Quantify and qualify the benefit using one or

more of the dimensions listed above. [Note: It may be helpful to define the capability required to resolve the issue (# 7 below) before identifying anticipated value-add.]

E.g.: B) - Labor reduced: expect 1 CJJP analyst working 50% of their time; can reassign other two resources to performing complex analyses required by department XYZ.
- *Accuracy: expected to improve significantly (~ 75% improvement)*
- *Cost reduced: by ~ 2/3 today's dollars (~ $XXX,000 annually).*
- *Credibility: expected to gradually improve with improved accuracy*

2. **Functional Capability Required**: Identify the capability(s) that, if provided, would help to resolve the issue. These capability(s) should be defined using *functional* descriptions, not specific technical solutions.

   [**Note**: All requirements for ICIS data, as defined and documented previously by individual agencies, should be stated, as part of the capabilities listed in this section (per the appropriate agency, business function, and issue)].

   E.g.: C) - Provide CJJP analysts with a means to access a single, centrally-located repository of filings data directly and efficiently, without having to analyze, merge and reformat data from multiple county ICIS reports..
   - *Provide CJJP with the ability to identify individuals with charges in more than one county.*
   - *Provide CJJP with the abiliity to access misdemeanor charges and outcome data.*
   - *Provide a predefined, standardized version of the ABC Report that would enable the CJJP analyst to enter values for variables X, Y, Z, A and B interactively, and generate the report on an as-needed basis.*
   - *Provide CJJP with the means to visualize the results of their filings analysis automatically and geographically, by county.*

3. **Achievement / Success Defined**: Identify the means or manner by which the agency will be able to determine that the issue has been resolved. Quantify and qualify measures whenever possible.

   E.g.: D) - When one CJJP analyst can perform the weekly analysis using 50% of his/her time; and the remaining two resources can be reassigned to perform other CJJP analyses.
   - *When the types of errors associated with the manual analysis methods can be eliminated.*
   - *When cost associated with manual analyses is reduced by ~ 2/3.*

4. **Agency Priority**: 1) For each issue defined regarding the business function under review, assign a numeric priority indicating the importance or criticality for an issue relative to every other issue defined. 2) Once a Business Discovery Worksheet has been completed for all agency business functions (of concern), then re-assign a numeric priority indicating the importance of each issue relative to all agency issues defined across all other business functions.

   E.g.: Regarding the issue 'Unable to easily monitor filing trends statewide due to the lack of a direct and efficient means to access data from the distributed county-based ICIS system':

   1) Function Priority: 1 (i.e., relative to all other issues of the filing function)
   2) Agency Priority: 4 (i.e., relative to all CJJP issues across all CJJP functions.)

Business Discovery Worksheet

Agency Name: __

Business Function: (Identify one function per form)				
Key Goals / Objectives: (Number each key function goal or objective defined)				
Key Business Issue, Problem, or Area Requiring Improvement	**Assoc'd Goal (Above)**	**A) Impact or Cost of Issue B) Value-Add if Issue Resolved**	**Agency Priority**	**C) Functional Capability Required D) Achievement / Success Defined**
Issue 1:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 2:		Impact / Cost: Value-Add:)		Capability Required: Success Defined:
Issue 3:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 4:		Impact / Cost: Value-Add:		Capability Required: Success Defined:

[Note: All fields will expand to the size required during data entry.]

Business Discovery:
Iowa Division of Criminal and Juvenile Planning

Role:

To help State and local officials and practitioners identify and address criminal and juvenile justice issues through research, data and policy analysis, planning, and grant administration (*).

Functions performed today:

- Research & Evaluation*:
  - Functions as an outside evaluator of other agencies' programs and operations
  - Conducts research on issues of concern.
  - Assists others with research design, data collection and analysis.

- Data Coordination & Planning Assistance*:
  - Prepares reports with council-developed plans and recommendations.
  - Serves as a clearinghouse for justice system information.
  - Provides staff support and assistance to multi-agency planning activities.
  - Provides assistance to State and local agencies and officials
    - > Policy analysis
    - > Data collection and analysis
    - > Program planning and development

- Grant Administration*:
  - Administers the State's Juvenile Crime Prevention Community Grant Fund Program.
  - Administers the federal Juvenile Justice & Delinquency Prevention Act Formula Grant.

- Databases:
  - Most reliant on data extracts provided from the county-based ICIS databases.

Needs:

- Primary capabilities are needed within the areas of:
  - Indigent defense
  - Correctional impact statements

- Functional capabilities, facilities, and/or tools needed to improve how CJJP's job functions are performed, and business objectives are achieved:
  - A single centralized repository of up-to-date and accurate data, as required to support indigent defense and correctional impact needs.
  - The means to link related data together that is not currently linked or related on ICIS today: eg., link juvenile court data to adult court data.
  - The means to easily access the centralized data repository from CJJP offices on both a regularly-scheduled and as-needed basis.
  - The means to help ensure the data in ICIS is clean and accurate (ie., via business process improvements, and modifications to ICIS functionality).
  - A general query, reporting and analysis tool.

(* = Excerpt taken from a CJJP document outlining "past year activities.")

Business Discovery Worksheet

- GIS tool to visually show the results of queries and analyses. This would help to "sell" the warehouse to the powers that be and to secure the necessary funding.

- Types of data needed include:
  - Charging Information / ICIS (i.e., criminal offenses)
  - Simple Misdemeanors / ICIS
  - Schedule Violations / ICIS (i.e., lowest level; non-criminal offenses).
  - Fine Payment Information / ICIS and IDOT (mainframe application for traffic tickets).

- Data elements needed that are not currently on ICIS:
  - "Attorney Type": There are four attorney types identified today; only Types 2 - 4 are involved in indigent defense cases:
    - > Type 1 / Private Attorney: Private attorney employed and paid by the defendant; not involved in indigent defense cases (aka "other").
    - > Type 2 / Public Defender: State employee paid by the State; part of the Department of Inspections and Appeals / Office of the State Public Defender.
    - > Type 3 / Private Attorney: Private attorneys hired under contract with the State Public Defender's office; State pays set / standard hourly rates ($55 Felony A; $50 Felony B; $45 all other).
    - > Type 4 / Non-Contract Attorney: Private attorneys appointed by the court on a case-by-case basis, and paid by the State. May not be paid standard rates if judge says otherwise.
  -
  -
  -
  -
  -

Business Discovery Worksheet

Agency Name: *CJJP*

Business Function I: (Identify one function per form) **Monitor and report on statewide criminal charging trends.**

Key Goals / Objectives: (Number each key function goal or objective defined)

1. Monitor criminal charging trends on a quarterly basis across all State counties.
2. Provide standard charging reports on a yearly or as-needed basis.
3. Analyze and report charging trends on specific crimes to other agencies and individuals upon request.
4. Incorporate knowledge of charging trends into prison population forecasting and correctional impact analyses.
5. Provide offender-based charge information.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Currently receive criminal data only *after* disposition and sentencing. Need to file data at the time charge is made. Lack efficient means to access charging data from the distributed county-based ICIS system. *(Correctional Impact Related)* *(Indigent Defense Related)*	1,2,3, 4	Impact / Cost: 1. Unable to perform charge-based reporting in a timely and efficient manner → impacts the usefulness of the data to CJJP and others. 2. Accuracy of prison population forecasting and correctional impact analyses may be at risk → may impact CJJP's credibility. Expected Value-Add: 1. Timely charging data will: - enable quick identification of trend changes. - help to improve the accuracy of prison population forecasting and correctional impact analyses.		Capability Required: 1. A centralized database containing up-to-date ICIS information on criminal charging activity (including case number). 2. A centralized database of the data above that can be easily accessed by CJJP within their offices on both a scheduled and as-needed basis. Success Defined: 1. When CJJP can generate quarterly and yearly criminal charging activity reports by: - offense class - specific offenses - county - district - statewide

Business Discovery Worksheet

Issue 2:	1,2,3, 4	Impact / Cost:		Capability Required:
Currently do not receive charging data on simple misdemeanors and scheduled violations. Currently do not receive data on *all* contempt cases. (*Contempt Case*: A case where an individual does not comply with a request or order of the court.) *(Correctional Impact Related)* *(Indigent Defense Related)*		1. CJJP is unable to provide data for correctional impact analyses for a number of bills each year. Eg: - During the '97 legislative session, no data could be provided for 6 impact statements out of a sample of 30 (20%) involving penalty changes for simple misdemeanors or scheduled violations. 2. Incomplete information on contempt cases: - affects the accuracy and credibility of clerk data. - results in a less-than-complete picture of the use of jails in the State. Expected Value-Add: 1. Will make data available to the State regarding the potential impact on correctional resources of proposed legislation. 2. Will save the State and/or local governments time, money, and resources. 3. Will improve State's ability to assess use of jails.		1. A centralized database containing up-to-date ICIS charge data for: - Simple misdemeanors - Scheduled violations - Contempt cases by type (e.g., nonpayment of fine, probation violation, violation of domestic abuse restraining orders, etc.) 2. A centralized database of the data above that is easily accessed by CJJP personnel from within their offices, on both a scheduled and as-needed basis. Success Defined: 1. When CJJP can complete correctional impact analyses on proposed laws that affect penalties for simple misdemeanors and scheduled violations. 2. When CJJP receives 100% of contempt data. 3. When CJJP can compile contempt cases by type (see above).

Business Discovery Worksheet

Issue 3:	4, 5	Impact / Cost:		Capability Required:
Currently do not compile *offender-based* charge information (# people per charge) Currently do not identify and compile offenders with charges in more than one county. Currently do not track changes in case venues, ie., changes in: - county (no means to track between counties) - Jurisdiction (ie., subsections within a county) [One person may be defined on ICIS at different points in time using different personal identification numbers.] *(Correctional Impact Related)* *(Indigent Defense Related)*		1. Lack of available information to assess whether charges are going up because - more people are being charged; or .... - the same people are being charged with additional crimes. 2. Lack of available information to determine what extent criminals are being charged with multiple offenses. Expected Value-Add: 1. Will improve the State's ability to assess how many offenders may be affected by a change in a law. 2. Will improve the State's ability to track offenders and offenses where more than one county courthouse is involved.		1. A centralized database containing up-to-date ICIS data on charges and offender descriptor data: - PIN and sequence numbers - social security number - other descriptors 2. A centralized database of the data above that is easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can compile accurate offender-based filing information (ie., where each offender who has been charged with more than one offense is counted only once). 2. When CJJP can readily identify offenders with charges in more than one county via name, race, sex, and/or social security number. 3. When CJJP can identify cases with changes in venue.

Business Discovery Worksheet

Issue 4: County-based ICIS criminal data extracts have grown too large to perform multi-year trend analysis efficiently (on analysts' PCs). Record volumes on a State-basis: - 75K currently - 5K increase per year *(Correctional Impact Related)* *(Indigent Defense Related)*	1,3,4	Impact / Cost: 1. Several hardcopy reports, spanning multiple years of data, must be generated and subsequently compiled by hand, when multi-year trend analysis is required. 2. Results in inefficient use of CJJP staff time. 3. Unable to provide trend analyses in a timely enough manner, or as quickly as is needed by some agencies and individuals. 4. Unable to perform all needed or desirable trend research due to insufficient time and resources. Expected Value-Add: 1. Will improve the level of understanding and awareness in changes of criminal filing trends. 2. Will improve the accuracy of prison population forecasts and correctional impact statements.		Capability Required: 1. A centralized database containing up-to-date ICIS data on charges and offender descriptor data: - PIN and sequence numbers - social security number - other descriptors 2. A centralized database of the above data that is easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can analyze several years' worth of charges in a single computer run for individual, or combinations of: - offenses - classes of offenses - counties - districts - statewide.

Business Discovery Worksheet

Agency Name: *CJJP*

Business Function II: (Identify one function per form) **Monitor and report on statewide criminal disposition and sentencing trends.**

Key Goals / Objectives: (Number each key function goal or objective defined)

1. Monitor criminal disposition and sentencing trends on a yearly basis across all State counties.
2. Provide standard disposition and sentencing reports on a yearly basis.
3. Analyze and report disposition and sentencing trends on specific crimes to other agencies and individuals on request.
4. Incorporate knowledge of sentencing trends into prison population forecasting and correctional impact analyses.
5. Provide information on suspended fines, on amounts of fines waived, on amounts of fines imposed, and on amounts of fines collected.
6. Provide offender-based sentencing information.
7. Provide information on case processing times for certain offenses and classes of offenses.
8. Provide *all* data requested for the National Judicial Reporting Program (NJRP) to the Federal government.
9. Provide information by race, sex and age, where possible, to facilitate research on youthful offenders, sentencing disparity, etc.
10. Provide information on probation revocation hearings and outcomes.
11. Provide information on the ultimate outcomes of "either-or" sentences.
12. Provide information on victim restitution amounts imposed and paid.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined

Business Discovery Worksheet

Issue 1:	1 - 12	Impact / Cost:		Capability Required:
[These are business process issue(s) which the data warehouse will not help to improve.] Many problems exist with the accuracy and completeness of ICIS data entered by the clerks of court. Eg: Some data fields that are key to research are missing information (eg., race--in particular). Offender race information is missing in well over half of all criminal records. *(Correctional Impact Related)*		1. Resources must be applied to cleanse the data: - One analyst currently spends 3 - 6 months cleaning clerk data for a given fiscal year. - If resources must be reallocated to other more critical needs, some lower priority errors may be left un-cleansed (ie., errors are prioritized and cleansed by error type). 2. Impacts data accuracy and credibility. 3. Have had to rely on data from fiscal years that may no longer be (as) relevant. - During the 1997 legislative session CJJP utilized FY93 disposition and sentencing data. 4. Impacts CJJP's accuracy and credibility. Expected Value-Add: 1. Will Improve accuracy of clerk data. 2. Will enable CJJP staff to devote additional time to more value-add activities, eg., correctional impact analyses and trends research. 3. Will improve accuracy of prison population forecasts and correctional impact statements. 4. Will improve the accuracy of analyses performed on: - youthful offenders - women - race and ethnic groups 5. Will facilitate sentencing disparity research: - The last time it was performed by the University of Northern Iowa, and it was a very resource-intensive process involving manual data collection.		1. (Re)train data entry personnel on the correct way to enter data in those fields used by CJJP [at a minimum] for analysis. Eg: - Use the specific code designating the offense class for a crime rather than citing a general description. - Understand the difference between jail and prison. - How to enter suspended sentences. 2. "Scrubbing" programs for data transformation and standardization. 3. Modify ICIS data entry screens by defining data fields as "required" and/or "quick-picked" from a list of valid values, wherever possible. Success Defined: 1. When the time required to clean clerk of court data is reduced by a minimum of 50%. 2. When CJJP can report on offense-based and offender-based dispositions and sentences with no more than a one-year time lag between the end of the fiscal year and the time that the fiscal year is reported on. 3. When CJJP can always utilizes the previous fiscal year's data in compiling correctional impact statements. 4. When no more than 3% of sex, age, and race fields are left empty.

Business Discovery Worksheet

Issue 2: ICIS disposition and sentencing data is not complete, accurate, or up to date (ie., "timely"). No means to capture charge reductions and amendments; only the original charge and the conviction are captured in ICIS today. No means / ability to assess the *reason* for a charge reduction or amendment. - Is this captured in ICIS today? Can we track plea-bargaining versus other reasons for amended charges?. Do not have adequate resources to [do what ??]: *(Correctional Impact Related)*	all	Impact / Cost: 1. During the 1997 legislative session CJJP utilized FY93 disposition and sentencing data. 2. CJJP skipped FY96 reporting because CJJP had no resources to enter it into (?) and had no plans to compile that year's data. Expected Value-Add: 1. Will improve accuracy of prison population forecast and correctional impact statements. *2. Also see other problems/issues in this section for the criminal disposition/sentence function, as improvement in other areas will result from proposed expanded data and analysis capabilities.*		Capability Required: 1. Replace CJJP's current clerk of court criminal charge, disposition and sentence database system (ie., ICIS data extract ??) for indictable misdemeanors and felonies. 2. Provide a centralized database containing up-to-date ICIS data on dispositions and sentences of indictable misdemeanors and felonies. To include: - case number - offender PIN and sequence numbers - offender social security number - offender sex, age, race, etc. 3. Provide a centralized database of the data above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. 3. Provide the capability to relate disposition and sentencing data to criminal filings information (see previous form). 4. Must provide the means to include charge reductions and amendments that occur between the time of the original charge and the case's disposition. Success Defined: 1. When CJJP can report on offense-based and offender-based dispositions and sentences with no more than a one-year time lag between the end of the fiscal year and the time that the fiscal year is reported on. 2. When CJJP can always utilize the previous fiscal year's data in compiling correctional impact statements. 3. When CJJP can track all charge reductions and amended charges in a case. 4. When CJJP can report on plea-bargaining practices (if ICIS has capability to track).

Business Discovery Worksheet

Issue 3:	1,2,3, 4	Impact / Cost:		Capability Required:
Currently do not receive charging data on simple misdemeanors and scheduled violations. Currently do not receive data on *all* contempt cases. Only 250K total records today ('97 only or earlier?). (*Contempt Case*: case where an individual does not comply with a request or order of the court.) *(Correctional Impact Related)*		1. CJJP is unable to provide data for correctional impact analyses for a number of bills each year. Eg: - During the '97 legislative session, no data could be provided for 6 impact statements out of a sample of 30 (20%) involving penalty changes for simple misdemeanors or scheduled violations. 2. Incomplete information on contempt cases: - affects the accuracy and (potential) credibility of clerk data. - results in a less-than-complete picture of the use of jails in the State. Expected Value-Add: 1. Will makes data available to the State regarding the potential impact on correctional resources of proposed legislation. 2. Will save the State and/or local governments time, money, and resources. 3. Will improve State's ability to assess use of jails.		1. A centralized database containing up-to-date ICIS charge data for: - Simple misdemeanors - Scheduled violations - Contempt cases by type (e.g., nonpayment of fine, probation violation, violation of domestic abuse restraining orders, etc.) 2. A centralized database of the data above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can complete correctional impact analyses on proposed laws that affect penalties for simple misdemeanors and scheduled violations. 2. When CJJP receives 100% of contempt data. 3. When CJJP can compile contempt cases by type (see above).

Business Discovery Worksheet

Issue 4: Only the initial fine imposed in a sentence is collected today: - Do not collect data on fine suspension / dismissal amounts or percentages. - Do not collect data on fine waivers. - Do not collect data on the fine *payments [This IS collected today in ICIS.]* *(Correctional Impact Related)*	1,2,4, 5	Impact / Cost: 1. Unable to obtain information on how frequently fines are waived or suspended. 2. Unable to analyze and report information by offense, offense class, county, or district for: - fine suspensions - fine waivers - "net" fine imposed after suspensions and waivers have been deducted. - fine collection rates. Expected Value-Add: 1. Will improve knowledge and awareness of the use of fines and fine collections. 2. Will improve CJJP's ability to assess the effectiveness of fine collection strategies employed by specific counties and districts. 3. Will improve fiscal impact analyses of proposed law changes affecting fines and fine collections.		Capability Required: 1. A centralized database containing up-to-date ICIS data on: - fines imposed - amount of fine suspended - if a fine was waived - amount of fine collected 2. A centralized database of the data above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. 3. The ability to compute fines imposed and fines collected by: - offense - classes of offenses - county - district 4. The ability to calculate: - an average fine ordered for all cases - an average fine ordered for specific crimes 5. The ability to determine the number of fines ordered above or below specified amounts. Success Defined: When CJJP can report on: - fines imposed - fine amounts suspended - fines waived - average fine amounts imposed - fines above/below specified amounts - fines by offense, class of offense - fines by county, district or statewide - fine collection rates by offense, class of offense, county, district or statewide.

Business Discovery Worksheet

Issue 5: County-based ICIS criminal data extracts have grown too large to perform multi-year trend analysis efficiently (via analyst PCs). - PC is constrained by 60MBs of memory. - File storage is on server. - Utilize SPSS, Dbase, Assess, Excel software against extracted data. *(Correctional Impact Related)*	1,3,4	Impact / Cost: 1. Several hardcopy reports, spanning multiple years of data, must be generated and subsequently compiled by hand, when multi-year trend analysis is required. 2. Results in inefficient use of CJJP staff time. 3. Unable to provide trend analyses in a timely enough manner, or as quickly as is needed by some agencies and individuals. 4. Unable to perform all needed or desirable trend research due to insufficient time and resources. Expected Value-Add: 1. Will improve the level of understanding and awareness of changes in criminal disposition and sentencing trends over time. 2. Will improve the accuracy of prison population forecasts and correctional impact statements.		Capability Required: 1. A centralized database containing multi-year ICIS data on dispositions, sentences, and offender descriptions: - PIN and sequence numbers - social security number - other descriptors 2. A centralized database of the data above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can analyze several years' worth of dismissal rates by offense or class of offense in a single computer run. 2. When CJJP can analyze several years' worth of incarceration rates by offense, class of offense, or total offenses in a single computer run. 3. When CJJP can analyze changes in case processing times over several years by various offenses, classes of offenses or total offenses via computer.

Business Discovery Worksheet

Issue 6: CJJP currently do not obtain information on case processing times. A generic six-month lag time is assumed between the time of the charge and the time of the conviction for all crimes. *(Correctional Impact Related)* *(Indigent Defense Related)*	4,7,8	**Impact / Cost:** 1. Can not provide or report on case processing times. 2. Given that the time between the charge and the conviction varies in reality, correctional impact analyses are not totally accurate. **Expected Value-Add:** 1. Will enable CJJP to provide the data requested for the National Judicial Reporting Program (NJRP) 2. Will improve the accuracy and credibility of correctional impact statements and prison population forecasts.		**Capability Required:** 1. A centralized database containing up-to-date ICIS information on the dates when: - charges were filed - charges were disposed of - sentencing was delivered 2. A centralized database of date above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. **Success Defined:** 1. When CJJP can compute case processing times by offense and class of offenses. 2. When CJJP can provide all data requested by the NJRP.

Business Discovery Worksheet

Issue 7:		Impact / Cost:		Capability Required:
Data on criminal cases is collected after disposition and sentencing, but *does not* include the collection of subsequent case information such as: - probation revocation hearings and outcomes. - ultimate dispositions of deferred judgements and sentences. - sentence reconsideration hearings and outcomes. - sentence reductions and dismissals resulting from appeals and re-trials. - other types of sentence reconsiderations for jailed inmates. - ultimate outcomes of sentences involving "either-or" types of sanctions: • fine OR community service • jail time OR fine • community service OR attorney fees No way to collect and monitor other types of reconsideration. A pilot program is currently underway that changes the way revocations *occur (ie., the revocation decision is being handled by an administrative law judge of the Parole Board and not a judge)*; it has only a limited means to evaluate the impact of the process on revocation hearings and sanctions. *(Correctional Impact Related)* *(This issue may have to wait for a later phase; need to determine ..... what?? If data is on ICIS ??))*	4,9,10 11	1. CJJP is unable to monitor and provide analysis and information to other State agencies on the data listed to the left 2. CJJP is unable to evaluate the impact of these outcomes on prison population. 3. CJJP is limited in its ability to accurately access the reasons for the growth in: - probation entries to prison, which are a major factor in prison population growth. 4. Manually comparing clerk data with prison information is time consuming -- plus no way to monitor other types of reconsideration, such as from jails 5. Inaccuracy in describing sentencing data (it is not known which "either-or" option was ultimately selected). Expected Value-Add: 1. Will improve accuracy in prison population forecasting and correctional impact analyses. 2. Will improve the knowledge and understanding of community-based correction practices by / on a: - county - district - the state		1. A centralized database containing up-to-date information on: - probation revocation hearings and outcomes. - sentence reconsideration hearings and outcomes. - other hearings and/or outcomes that affect a case after sentencing - including case number and offender description information. 2. A centralized database of the date above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can report on: - probation revocation hearings and outcomes - sentence reconsideration hearings and outcomes - sentence reductions and dismissals as a result of appeals and re-trials - other post-sentencing hearings and/or outcomes - ability to report the option ultimately selected in "either-or" sentencing.

Business Discovery Worksheet

Issue 8: Currently only a "*Yes*"/"*No*" value is entered in ICIS regarding whether victim restitution has been ordered. *(Correctional Impact Related)* *(This issue may have to wait for a later phase)*	1,2,12	Impact / Cost: CJJP is unable to monitor, analyze and provide information on victim restitution owed and paid to other agencies and individuals. Expected Value-Add: 1. Will improve knowledge and understanding of information on orders for victim restitution. 2. Will enable computations for payment rates to be made by county, district and statewide, for various offenses and classes of offenses. 3. Will enable computations of an average amount ordered across all cases to be made, or an average amount for specific crimes.		Capability Required: 1. A centralized database containing up-to-date information on: - orders for victim restitution. - ordered amounts. - amounts paid - case number and offender description information. 2. A centralized database of the date above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can report on the $ amount ordered in victim restitution cases. 2. When CJJP can calculate an average amount of victim restitution ordered by county, by district, and for the state. 3. When CJJP can calculate payment rates by: - county - district - for the state - specific offense - class of offense

Business Discovery Worksheet

Agency Name: *CJJP*

Business Function: (Identify one function per form) **Monitor and report on juvenile justice trends, including waivers of youth to adult court.**

Key Goals / Objectives: (Number each key function goal or objective defined)

1. Identify and report on all juveniles waived to adult court (including both statutory and automatic waivers).
2. Track re-offending by delinquents.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Incomplete data for juvenile court waivers (to adult court). Adult conviction and sentencing data shows "waived=N" in cases where the clerks of court did not receive paperwork from juvenile court regarding a waiver, or where youths were waived on a statutory basis. *(Correctional Impact Related)* *(Indigent Defense Related)*	1	Impact / Cost: 1. Limited usefulness of current juvenile court waiver flag. 2. Inhibits CJJP's ability to provide impact analyses on the way delinquent youth will be respond to, as a result of legislative changes. Expected Value-Add: 1. Will have access to accurate and complete information on juveniles waived to adult court. 2. Will have the ability to provide accurate impact analyses for the legislature.		Capability Required: 1. A centralized database containing current and accurate ICIS information on juvenile court intake cases and decisions. 2. The means to link juvenile and adult charge and conviction data (see above functions/issues) that may be easily accessed by CJJP from within their offices on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can report on *all* waivers of youths to adult court.

Business Discovery Worksheet

Issue 2: Unable to track re-offending delinquents. Some districts handle re-offending delinquents as new intakes , while others continue the same case. Need to be able to identify when a juvenile commits a *new* delinquent act, regardless of how it is handled administratively by the juvenile court office. *(Correctional Impact Related)* *(Indigent Defense Related)*	2	Impact / Cost: 1. Little is known or understood about juvenile recidivism. 2. CJJP is unable to provide information to decision-makers to help guide and shape (legislative?) changes regarding the way the State will respond to delinquent youth. Expected Value-Add: 1. Will improve the accuracy of analyses performed on youthful offenders: eg., identifying repeat juvenile offenders, knowing how many juveniles are expected to continue delinquent behavior, etc. 2. Will facilitate the tracking of youth cohorts (e.g., all youth adjudicated delinquents) during a given fiscal year to determine recidivism rates by offense, etc. 3. Will facilitate research on sentencing disparity and recidivistic behavior.		Capability Required: 1. A centralized database containing current and accurate ICIS information on: - delinquency filings and outcomes - subsequent re-offending, recidivistic behavior 2. A centralized database of the date above that can be easily accessed by CJJP personnel from within their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can readily analyze youth recidivism by offense, type of program / services the juvenile received. 2. When CJJP can readily analyze youth recidivism by racial and/or ethnic group, and sex.
Issue 3: Can not track criminal offenders who have juvenile records. *(Correctional Impact Related)* *(Indigent Defense Related)*		Impact / Cost: 1. Do not know / understand the impact or cost of failing to successfully intervene in a delinquent's life to avert future criminal activity. Expected Value-Add: 1. Will improve CJJP's understanding of the extent to which adult criminal activity is rooted in juvenile delinquency.		Capability Required: 1. Relate juvenile and criminal information to enable CJJP to analyze the juvenile history of adult criminals and the adult criminal history of juveniles. 2. Provide the means to analyze and determine how many juveniles end up in adult court. Success Defined: 1. When CJJP can provide information on future adult criminal charges of previous delinquents. 2. When CJJP can provide information on how many adult offenders have juvenile records.

Business Discovery Worksheet

Agency Name: *CJJP*

Business Function: (Identify one function per form) **Provide information on domestic abuse restraining orders.**

Key Goals / Objectives: (Number each key function goal or objective defined)

1. Monitor and report on yearly domestic abuse restraining orders imposed (pro se (?) and criminal).
2. Track violations of restraining orders by whether they were pro se or criminal -- and include penalties imposed.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Increasing attention on domestic abuse has caused an increase in requests for basic restraining order information, much of which the CJJP is unable to answer. While CJJP can get the numbers of orders (pro se and criminal), and the numbers of violations of those orders from the State court administrator's office (ie., ICIS?) they can not: - analyze this information by district or county. - tie this information to criminal filings and dispositions for further analysis. *(Correctional Impact Related)* *(This issue may have to wait for a later phase)*	1	Impact / Cost: 1. Expected Value-Add: 1.		Capability Required: 1. A centralized database containing current and accurate ICIS information: - on restraining orders issued. - that can be linked with adult charge and conviction information. 2. A centralized database of the above data that can be easily accessed by CJJP personnel from their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can describe restraining orders issued by type (pro se vs. criminal) and county/district.

Business Discovery Worksheet

Issue 2:		Impact / Cost:		Capability Required:
Increasing attention on domestic abuse has caused an increased need to conduct analysis in this area, to guide planning and responses for this problem. CJJP does not receive data that would enable them to: - analyze violations of restraining orders by type of order (pro se versus criminal) - monitor and report on penalties imposed in such violations. .... *(Correctional Impact Related)* *(This issue may have to wait for a later phase)*		1. CJJP is unable to: - analyze violations of restraining orders by type of order (pro se versus criminal) - monitor and report on penalties imposed in such violations. 2. CJJP is not able to provide data to groups who are responsible to develop policies on these issues. Expected Value-Add: 1. Will facilitate research regarding homicide victims of domestic violence (prior order/s issued and responses, if any, prior to the homicide).		1. A centralized database containing current and accurate ICIS information: - on restraining order violations and penalties imposed. - that can be linked with adult charge and conviction information. 2. A centralized database of the above data that can be easily accessed by CJJP personnel from their offices, on both a regularly scheduled and as-needed basis. Success Defined: 1. When CJJP can report on restraining violations by type, and penalties imposed. 2. When CJJP can determine prior orders / violations for homicide victims of domestic violence.

Business Discovery:
Iowa Department of Management / Caucus Staffs

Role:

- Provide data to help drive the budget process, executive recommendations; and legislative support.
- Provide data to drive budget processes and resource allocations
- Identify what / how funds should be allocated across all criminal and juvenile areas / related components.
- House Republican Caucus Staff's role (or any caucus staff) is to .....

How done today:

- Generally ICIS data is provided from a nine-county sample: 3 large, 3 medium, 3 small. The same counties may not always be selected for every analysis; counties are selected by county (?) court clerks.

Need:

- Need current as well as historical data, appropriately aggregated to enable DOM to identify what and how funds should be allocated across all criminal and juvenile areas / associated components.
- Types of data needed include:
    - Charging Information / ICIS (i.e., criminal offenses: Felony Type A – D, and Misdemeanors)
    - Simple Misdemeanor Information / ICIS
    - Schedule Violations Information / ICIS (i.e., lowest level; non-criminal offenses).
    - Fine Payment Information / ICIS and IDOT (mainframe application for traffic tickets).
- Need attorney type added to ICIS. There are four attorney types; only three are involved in indigent defense cases:
    - Type 1 / Private Attorney: Private attorney employed and paid by the defendant; not involved in indigent defense cases (aka "other").
    - Type 2 / Public Defender: State employee paid by the State; part of the Department of Inspections and Appeals / Office of the State Public Defender.
    - Type 3 / Private Attorney: Private attorneys hired under contract with the State Public Defender's office; State pays set / standard hourly rates ($55 Felony A; $50 Felony B; $45 all other).
    - Type 4 / Non-Contract Attorney: Private attorneys appointed by the court on a case-by-case basis, and paid by the State. May not be paid standard rates if judge says otherwise.
- It would be nice to use a GIS tool to visually show the results of queries and analyses. This would help to "sell" the warehouse to the powers that be and to secure the necessary funding.

(Exhibit 3.5)

Business Discovery:
Iowa Legislative Fiscal Bureau

Role:

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Business functions performed today:

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Need:

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- Types of data needed include:

Business Discovery Worksheet

Agency Name: *LEGISLATIVE FISCAL BUREAU*

Business Function: (Identify one function per form)

The LFB is required by statute to prepare Fiscal Notes and Correctional Impact Statements for proposed changes to the Code of Iowa.

Fiscal Notes: Estimated costs for legislative changes.

Correctional Impact Statements: Fiscal notes that also identify the effects of the proposed change for the prison and community-based corrections (CBC) systems.

Key Goals / Objectives: (Number each key function goal or objective defined)

1) Provide accurate estimates of costs and revenues from changes to Iowa's laws so that legislators can make informed decisions about voting, amending, and appropriations.
2) Provide accurate estimates of the effects on prison and CBC populations and programs from changes to the Code so that legislators can make informed decisions about voting, amending, and appropriations.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Accurate information is not readily available regarding the numbers of crimes by type, sentences, dispositions, fines (assessed and collected).	1 & 2	Impact / Cost: Accuracy of estimates can be suspect when data comes from selected jurisdictions or timeframes. Value-Add: Improved accuracy and confidence in the estimates.	1	Capability Required: Provide a means to access and organize accurate data independent of other agencies. Success Defined: Access to data that is organized and easily accessible, and that has been verified for accuracy. Identify number of cases by type of crime (felonies of all types and misdemeanors of all types, traffic violations), juvenile cases by type, and civil cases.; charges filed (original charge, multiple charges, dropped charges, modified charges, associated defendants); trial process (conviction from trial by jury, conviction from trial by judge, guilty plea, sentence/disposition imposed (jail, probation, prison, community service; fine, fee, surcharge); fines, fees, and surcharges imposed and collected, Courts' resources expended.

Business Discovery Worksheet

Issue 1 Information is not always available in a timely manner without extensive manual searching of documents by Courts staff. The resolution is often to provide information that is readily available (often from a few counties), but that may or may not representative of the State as a whole.	1 & 2	Impact / Cost: Difficult to prepare estimates in a timely fashion. Legislative staff often prepare estimates in the evenings when Judicial and Executive Branch staff are unavailable to provide information. Value-Add: Timeliness: Use of a searchable data base would allow legislative staff to timely access, since legislative staff often work evenings and weekends during Session when Judicial and Executive Branch staff are not available to supply information. Credibility: A data base searchable by outside agencies would improve credibility, by allowing impartial outside agencies to collect and organize information. Independence: A data base searchable by outside agencies would reduces dependence of other agencies upon Courts resources and priorities in obtaining information. While we do not know how much time is dedicated to these activities by the Court staff, we would think this would allow them to perform other functions or aspects of their jobs.		Capability Required: Have method to easily query information/data at any time of day. Success Defined: LFB staff can obtain data in an electronic format that is readily analyzable and understood.

[Note: All fields will expand to the size required during data entry.]

Agency Name: *LEGISLATIVE FISCAL BUREAU*

Business Function: (Identify one function per form)

Review Departments' budgets and evaluate appropriations requests.

Key Goals / Objectives: (Number each key function goal or objective defined)

Examine revenues and expenditures, considering changes in workload levels and types of work required and resources necessary to perform the work. The results of the examination are reported to legislative committees during the appropriation process and for legislative oversight of expenditures.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Courts workloads affect resource needs, i.e., amounts that are appropriated. Data are not readily available to examine changes in workload, types of cases, staffing requirements, etc.		Impact / Cost: Information is not always readily available to substantiate appropriations requests or to monitor expenditure of appropriations. Value-Add: (1) Legislators will have a clearer understanding of Courts System needs and a credible cross-check on requests. (2) Information will be available to predict fiscal impact on agencies "downstream" from the Courts in the criminal justice process, i.e., Public Defender, Department of Corrections, and Parole Board.	3	Capability Required: Ability to access staffing and resource expenditure information by subunits within the Court System. Success Defined: Can perform independent analyses of resource utilization and/or verify requests for resources. Should be able to access caseloads by type of case, resources required by case type (staffing, equipment, supplies, professional services, etc.); assignment of cases to the Public Defender, contract attorney, and court-appointed private attorney; payments to or claims from contract and court-appointed attorneys by type of case. Should also be able to examine other Court activities that utilize resources.
Issue 2:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 3:		Impact / Cost: Value-Add:		Capability Required: Success Defined:

[Note: All fields will expand to the size required during data entry.]

Agency Name: *LEGISLATIVE FISCAL BUREAU*

Business Function: (Identify one function per form)

Respond to legislative questions on any issue involving appropriations or expenditure of appropriations (virtually any topic) during the Legislative Session.

Key Goals / Objectives: (Number each key function goal or objective defined)

1) Have data and information available or readily obtainable.
2) Have highly flexible data base so the data can be arranged in any manner to respond to a question.
3) Have data available in a manner that is not labor intensive to reorganize and pull out information relevant to the question.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: During Session, legislators raise questions and usually need a response immediately or the next day.	1	Impact / Cost: Information that cannot be obtained and presented before the legislative decision is made is not useful. Value-Add: Better decisions are made and less corrective legislation is needed when the information is available before the decision is made.	2	Capability Required: Ability to tap into data, analyze it quickly, and respond within a few hours. Success Defined: Have access to a data base that can be queried quickly so that information can be pulled, organized, and written up before the next day.
Issue 2: Legislators raise questions that require data to be organized in ways typically not contemplated when the databases were constructed. Need to be able to regroup, cross-tab, and cut the data in many ways (which usually means storing the data at the most detail level and then summarize ("roll it up") in a way to answer the question.	2	Impact / Cost: Often legislators must be provided with what is known, but that information does not directly answer their question. Value-Add: If data can be structured to address the question, decisions can be made from objective information rather than intuition or personal experiences reported by Court staff.		Capability Required: Have a highly flexible data base to structure and cut the data to answer previously unanticipated questions. Success Defined: The data base would be readily understood, maintained in sufficient detail, that it can be readily summarized in ways previously unanticipated.
Issue 3: Data from numerous sources can be incompatible, summarized in ways that is difficult to apply, and may require a variety of assumptions to use. This is time consuming to organize and can be difficult to report.	3	Impact / Cost: Estimates are created from the best information available and can be "soft." Value-Add: Information directly applicable to the question being asked creates more direct estimates and greater confidence in their accuracy.		Capability Required: Have data on the Courts system and proceedings that is clean and readily analyzed. Success Defined: Have access to a data base that can be queried easily, with confidence that the information is accurate, and assumptions can be minimized.

[Note: All fields will expand to the size required during data entry.]

Agency Name: *LEGISLATIVE FISCAL BUREAU*

Business Function: (Identify one function per form)
Perform policy evaluations for the Legislature. (Issue Reviews and Program Evaluations)

Key Goals / Objectives: (Number each key function goal or objective defined)
Perform objective analyses and provide legislators information on specific issues that is credible and unbiased.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Questions often arise that are not consistent with the manner in which data are collected or data has not been collected that would answer the question. (These are usually done during the interim, so more time is available to collect and analyze the information.)		Impact / Cost: Data must be retrieved and organized manually by Court staff, who must take time from their other responsibilities. This would allow our staff to answer questions directly and allow Court staff more time to perform other functions. We do not have an estimate on the exact amount of time they would have to do other functions, however. Value-Add: Analyses will be improved and done more quickly. Data which can strictly be managed by one person saves time for the overall system.	3	Capability Required: Ability to obtain data and organize it in ways to address policy issues. D) Have access to a data base that can be queried easily and structured to answer a variety of policy questions, both for the Courts and the criminal justice area. It would need to include information of the number and types of crimes, offender characteristics (demographics, previous offenses, etc.), sentences, dispositions, affiliations with other criminals, multiple crimes and linkages among crimes and charges, assignment of legal counsel, fines, penalties, and surcharges assessed and collected, etc.
Issue 2:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 3:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 4:		Impact / Cost: Value-Add:		Capability Required: Success Defined:

[Note: All fields will expand to the size required during data entry.]

Agency Name: *LEGISLATIVE FISCAL BUREAU*

Business Function: (Identify one function per form)
Provide revenue estimates for the Legislature and participate in the Revenue Estimating Conference.

Key Goals / Objectives: (Number each key function goal or objective defined)
Identify annual trends in funding for the State and accurately identify changes in those trends.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Identify trends in fines, fees, surcharges, etc. that will be received by the General Fund from the Judicial Branch.		Impact / Cost: More accurate estimates would allow legislators to appropriate money efficiently. B) If estimates are not accurate, funds and programs can be cut or require supplemental appropriations.	5	Capability Required: Ability to examine fines, fees, surcharges, etc. by source and identify trends or changes in trends for revenue generation. Success Defined: Have historical data showing how the revenues were generated.
Issue 2:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 3:		Impact / Cost: Value-Add:		Capability Required: Success Defined:
Issue 4:		Impact / Cost: Value-Add:		Capability Required: Success Defined:

[Note: All fields will expand to the size required during data entry.]

(Exhibit 3.6)

Business Discovery:
Iowa Department of Inspections & Appeals / Public Defenders Office

Role:

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How done today:

-.

Need:

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- Types of data needed include:

Business Discovery Worksheet

Agency Name: *OFFICE OF THE STATE PUBLIC DEFENDER - DEPARTMENT OF INSPECTIONS & APPEALS*

Business Function: (Identify one function per form) **Predict indigent defense costs**

Key Goals / Objectives: (Number each key function goal or objective defined)

1. Identify cases that are handled by indigent defense.
2. Identify charge(s) per indigent defense case.
3. Identify the outcome per indigent defense case.
4. Identify the processing time per indigent defense case.
5. Identify the cost per indigent defense case (per each level of felony and misdemeanor).
6. Identify restitution per indigent defense case: amount ordered vs. amount paid.
7. Determine the impact of changes in the law on indigent defense costs.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: "Case Number" is not consistently assigned to all associated event and claims documentation for an indigent defense case.	1 - 7	Impact / Cost: The DIA can not collect all relevant information to accurately determine indigent defense costs, and predict future needs and costs. Significant manual effort required by ????????. Value-Add:		Capability Required: Success Defined:
Issue 2: The Fiscal Services Bureau and the State Public Defender's Office are separate DIA organizations under separate management. The business focus for each office is different and separate: FSB's → claim payments; PD's → management information and analysis.		Impact / Cost: The DIA can not correlate claims payment data with associated case management data easily, accurately, or at all. Value-Add:		Capability Required: Success Defined:
Issue 3: Accounting data is captured in IFAS; individual and detailed claim items are captured in an Access database. For an attorney who has submitted multiple claims (potentially against multiple cases), IFAS generates a single, consolidated payment.		Impact / Cost: The DIA can not correlate detailed claims data in the Access Database with associated payment data in IFAS easily, accurately, or at all. Value-Add:		Capability Required: Success Defined:

Issue 4: Cases are not identified in a standard consistent manner: Case Incident Number, Court Number, Claim Number, Charge Number may all contain different identification numbers, OR they may all be the same number to identify a single case. Charge Number is/should be, however, the lowest level identifier and common denominator across all.		Impact / Cost: The DIA may not be collecting all relevant information regarding a case and may therefore not be accurately representing a case, its costs, statistical , and/or the "big picture". Value-Add:		Capability Required: Success Defined:
Issue 5: Charges are not consistently defined and filed. Changes in charges as a result of plea bargaining are not consistently (documented??.)		Impact / Cost: The DIA may not be collecting all relevant information regarding a case and may therefore not be accurately representing a case or its costs. Value-Add:		Capability Required: Success Defined:

[Note: All fields will expand to the size required during data entry.]

Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Maintain Criminal History Record on all individuals convicted of criminal charges is Iowa

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Track all individuals arrested throught the criminal justice systems
2. Tie all court actions to specific individual and arrest incident

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Not all criminal dispositions are being received and cannot track all that are received to a specific criminal charge or arrest.	2	Impact / Cost: Criminal history records are not complete and accurate, resulting in decisions that do not reflect the true facts surrounding criminal defendants. Value-Add: Better decisions concerning disposition of criminal cases. Reduced labor costs in maintaining criminal records.	1	Capability Required: Provide Dept. of Public Safety with complete and accurate data on all criminal cases filed with courts in Iowa. Success Defined: 95% of court dispositions are accurately applied to Criminal History Record.

Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Maintain file of Court restraining orders and make data available to law enforcement for operational use.

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Maintain a file of all active restraining orders.
2. Update file within 24 hours of any additions, deletions, or changes to orders.
3. Provide criminal justice and courts immediate access for enforcement actions.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Not all restraining orders are being made available to DPS for inclusion in restraining order file.	1	Impact / Cost: Public safety would be enhanced if all restraining orders were available to law enforcement. Value-Add: Individuals violating restraining orders could be identified and appropriate enforcement action taken.	2	Capability Required: Data on domestic abuse restraining orders from all judicial districts would be available to IOWA System. Non-domestic abuse restraining orders from all judicial districts would be available to IOWA System. Success Defined: All Restraining orders from all counties are available for inclusion in IOWA System.

Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Maintain a registry of all Sex Offenders and make the registry available to Law Enforcement.

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Maintain a registry of Sex Offenders that includes their current address.
2. Provide a "ready access" to information that may need to be publicly disseminated on "high risk" offenders.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Not all offenders who are required to register do so.	1	Impact / Cost: Notification to DPS of all sex offenders who are required to register. Value-Add: More complete registry	3	Capability Required: Identification of all individuals convicted of sex crimes, and the crime convicted of. Success Defined: Systems provides identification of 98% of sex offenders convicted in Iowa Courts
Issue 2: Information for conducting risk assessments is not readily available.	2	Impact / Cost: Ready access to circumstances of crimes Value-Add:) Better determination of "at risk" offenders		Capability Required: More complete information on circumstances and extent of criminal activity. Success Defined: Information is available to conduct risk assessment.

Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Maintain a file of all arrest warrants, mittimus', juvenile pickup orders and other criminal court orders and make the file available to law enforcement.

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Wanted person file will be complete and accurate at all times.
2. Access to file by law enforcement will be continuously available throughout the IOWA System.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: Not all court orders, modifications to orders, and cancellations of orders is made available to DPS.	1	Impact / Cost: Complete and accurate orders lowers risk to personal safety of officers and civilians. Value-Add: Lowers risk of false arrest per injury to Law Enforcement officers and civilians.	4	Capability Required: Notice of all orders issued, modified and cancelled. Success Defined: Access within 24 hours of action
Issue 2: Validation of arrest warrants, mittimus', and other criminal court orders that serve as basis for an IOWA/NCIC wanted person entry is time consuming and labor intensive.	2	Impact / Cost: Decreases workload of clerks of court and Law Enforcement personnel. Value-Add: Allows better utilization of records and communications staff by allowing them to access records from their work place on a 24-hour basis.		Capability Required: Ability to determine if order still valid Success Defined: Update within 24 hours of action.

Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Restrict the issuance of permits to acquire and carry firearms to qualified individuals.

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Permits to acquire pistols and revolvers are not issued to individuals who are not qualified to possess same under federal or state law.
2. Permits to carry weapons are not issued to individuals disqualified by state law.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: The courts have information on individuals who are prohibited from possessing firearms that is not being made available to officers issuing permits to carry or acquire.	1	Impact / Cost: Better background investigations prior to weapon permit issuance. Value-Add: Safer society due to reduced access to firearms.	5	Capability Required: Access to mental commitments by courts. Access to information on misdemeanor convictions where domestic abuse is an element of the crime. Success Defined: Data can be retrieved from warehouse that will assist law enforcement in making determination that applicants are not qualified to possess firearms.

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Business Discovery Worksheet

Agency Name: *IOWA DEPARTMENT OF PUBLIC SAFETY*

Business Function: (Identify one function per form)
Control the flow of traffic on the state's highways through traffic enforcement and the Issuance of citations for violations of traffic laws.

Key Goals / Objectives: (Number each key function goal or objective defined)
1. Reduce injury and death resulting from vehicle crashes through enforcement of traffic laws.

Key Business Issue, Problem, or Area Requiring Improvement	Assoc'd Goal (Above)	A) Impact or Cost of Issue B) Value-Add if Issue Resolved	Agency Priority	C) Functional Capability Required D) Achievement / Success Defined
Issue 1: There is currently no efficient way to traffic citations filed with the courts.	1	Impact / Cost: Better traffic enforcement could be designed if accurate picture of traffic citation dispositions were readily available. Value-Add: Less personal injury and loss of life would result from more effective traffic enforcement.	6	Capability Required: Final disposition of all traffic citations filed with courts. Success Defined: Ability to retrieve disposition data on traffic citations issued by ISP.

Questions Related to Business Discovery Issues

All questions will be required for time/date boundaries, and at district, county, and state levels.

Questions Supported by ICIS Data:

1. Identify/quantify charges by charge type, charge, sentence/disposition imposed, guilty plea, offender
2. Identify/quantify cases by charges filed (original charges, dropped charges, modified charges), trial process, surcharges, fees, case type (e.g. contempt), offender, case sub-type
3. Identify/quantify simple misdemeanors & scheduled violations, by charge by conviction
4. Identify/quantify offender-based charge details
5. Identify/quantify dispositions and sentences
6. Identify imposed and collected fines by person (characteristic)
7. Identify/quantify offender-based and charge-based sentencing
8. Identify/quantify case processing time
9. Identify/quantify information by people characteristic (race, sex, age, etc.)
10. Identify victim restitution amounts imposed and paid by case, case type, and payor.
11. Identify charge reduction and amendments by original charge.
12. Identify/quantify the number of charges that are dismissed by county or judge.
13. Identify/quantify incarceration rates by charge and charge type
14. Identify/quantify juveniles waived to adult court
15. Identify/quantify re-offending incidents for a juvenile
16. Identify recidivism by person characteristic (race, ethnic group, sex, etc.)
17. Identify/quantify re-offending juvenile incidents by charge and type of program/service.
18. Identify/quantify arrest warrants, mittimus, juvenile pickups. (orders that were issued and canceled)
19. Quantify the number of indigent cases and charges (this is possible only if we can identify the case as indigent or the type of indigent defense attorney)

Questions Not Supported by ICIS Data:

1. Identify change of venue cases in ICIS

2. Identify/quantify suspended or waived fines.

3. Identify either/or sentence outcomes

4. Identify reasons (as a code) for charge reduction or amendment

5. Identify post sentencing activity information for a case. For example – time served, either/or types of sanctions (jail time or fine), sentence reductions due to appeal/retrial, deferred judgments and sentences

6. Quantify the number of juveniles that later end up in adult court on a future charge (non-waiver)

7. Report caseload information by assignment of cases to attorney type (public defender, contract, court-appointed), resources used, and payments to/claims from

8. Identify information pertaining to issuance of gun permits

9. Identify cases that are handled by indigent defense (associated costs, time per case, restitution, impact of law on changes)

Questions Outside Scope of First Module (Fiscal Notes Preparation ,Correctional Impact, Indigent Defense)

1. Identify/quantify # of imposed domestic abuse and other restraining orders (pro se and criminal)

2. Identify/quantify # and type of penalties imposed on the violation of domestic abuse restraining orders

3. Identify/quantify # of homicide victims resulting from domestic violence

4. Identify/quantify civil cases by charges filed (original charges, dropped charges, modified charges, associated defendants), trial process, sentence/disposition imposed

5. Identify/quantify sex offender in Iowa

(Exhibit 3.11)

Questions Related to Business Discovery Issues: Planning Group Selections

	DOM	Steve/DOC	Mick/DOC	Lettie/CJJP	Carroll/DPS	Darlene/LFB	Sarah/DIA-PD	Dwayne/LFB	Laura/CJJP
4.5.7. Identify/quantify offender based and offense-based charge details, dispositions/sentences		X	X					X	X
9. Identify/quantify case & charge information by people characteristic (race, sex, age, etc.) for adults & juveniles		X						X	X
3. Identify/quantify charges and convictions by charge and sentences				X					
19. Quantify the number of indigent cases and charges (this is possible only if we can identify the case as indigent or the type of indigent defense attorney)	X					X	X		
1. Identify/quantify charges by charge type, charge, sentence/disposition imposed, guilty plea, offender			X		X				
16. Identify recidivism by person characteristic (race, ethnic group, sex, etc.) and chartge		X							
10. Identify victim restitution amounts imposed and paid by case, case type, and payer.	X		X				X		
2. Identify/quantify cases by charges filed (original charges, dropped charges, modified charges), trial process, surcharges, fees, case type (e.g. contempt), offender							X		
14. Identify/quantify juveniles waived to adult court									X
6. Identify imposed and collected fines by year and by offense (for single charge cases)	X			X		X		X	
11. Identify charge reduction and amendments by original charge.					X				
8. Identify/quantify case processing time				X					
13. Identify/quantify incarceration rates by charge and charge type						X			
18. Identify/quantify arrest warrants, mittimus, juvenile pickups. (orders that were issued and canceled)					X				

Not Rated.

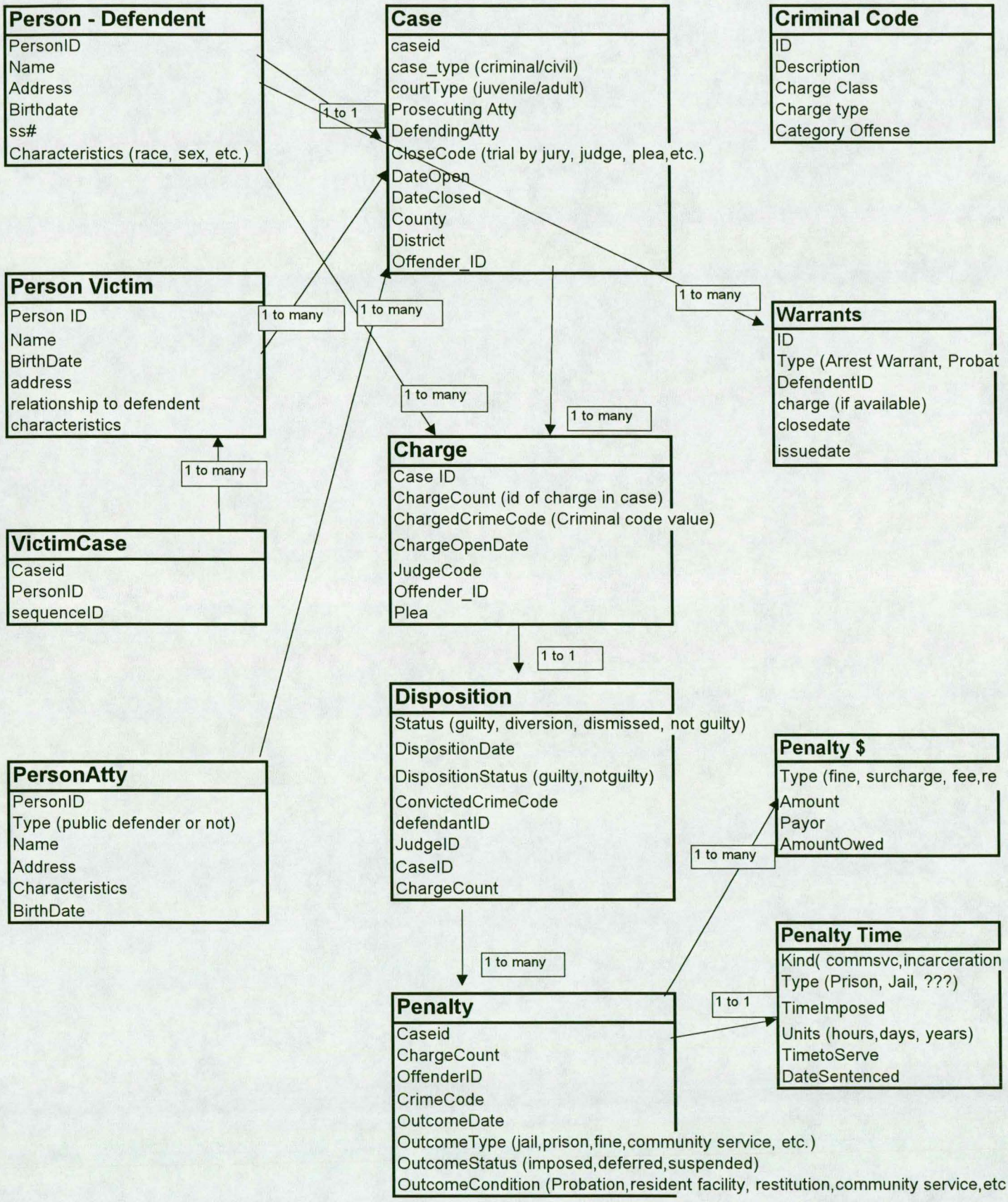
12. Identify/quantify the number of charges that are dismissed by county or judge.

15. Identify/quantify re-offending incidents for a juvenile

17. Identify/quantify re-offending juvenile incidents by charge and type of program/service.

Conceptual Data Model

(Exhibit 3.12)



1997 Case Volumes

(Exhibit 3.13)

Size	County Name	'97 Cases	% of Total	Cum %
Large	Polk	124,628	17.3%	**17.3%**
	Woodbury	48,098	6.7%	
	Black Hawk	45,950	6.4%	
	Linn	38,454	5.8%	
	Scott	36,924	5.1%	
	Johnson	32,101	4.5%	
	Pottawattamie	30,895	4.3%	
Medium	Dubuque	25,381	3.5%	**47.0%**
	Cerro Gordo	14,700	2.0%	
	Wapello	14,487	2.0%	
	Marshall	13,251	1.8%	
	Warren	12,105	1.7%	
	Webster	11,272	1.6%	
	Story	11,262	1.6%	
Small	85 Others: <10,000 cases e	259,658	35.7%	**35.70%**
	Statewide Total	**719,166**	**100.0%**	**100.0%**

Polk County accounted for ~17% of the total '97 case volumes; the remaining 98 counties accounted for 83%.

Estimated Annual Growth Rate

(Exhibit 3.14)

Calendar Year	1992	1993	1994	1995	1996	1997
Criminal	10,560	11,646	12,653	16,067	17,222	N/A
Simple Misdemeanor	40,331	37,684	39,758	43,654	73,461	N/A
Civil	10,795	11,777	10,856	10,035	11,962	N/A
Small Claims	12,051	11,441	12,083	13,818	12,743	N/A
Sched'd Violations	29,397	27,347	26,381	28,564	32,710	N/A
Total Cases	**103,134**	**99,895**	**101,731**	**112,138**	**148,098**	**124,628**
Change from Prior Year	--	-3,239	1,836	10,407	35,960	-23,470
% Change from Prior Year	--	-3%	2%	10%	32%	-16%
Ave % Change '92-'97				**5%**		
Ave % Change '94-'97				**9%**		

** '97 case breakout not available; total case volume determined via count query of 'case_header' table.

1. Polk County experienced a ~10% average Annual Growth Rate during '94-'97.

2. A 30% average Annual Growth Rate for all counties was estimated using the following assumptions, per '97 case volumes: [Note: EAGR = *Estimated* Annual Growth Ra

* Counties with >100,000 Cases (Polk): ~124,600 total cases + 10% AGR = 137,100
* Counties with >10,000 Cases (13): ~334,900 total cases + 25% EAGR = 416,600
* Counties with < 10,000 Cases (85): ~ 259,700 total cases + 75% EAGR = 454,400

719,200 1,010,100

* Average Estimated Annual Growth Rate:

Total '97 Cases / Total Cases (w/AGR applied)

719,200 / 1,010,100 = 29.8% or ~30%

JDW Database Sizing: Based on '97 Polk County Volumes

(Exhibit 3.15)

TABLE TYPE	ICIS Table / JDW Table	Data Elements per Table: (Total / Admin)	Maximum Bytes per Record	Polk County: '97 Record Counts	Polk County: '97 Table Volumes (Bytes)	Projected Data Volumes: w/ Annual Growth Rates = 1998: 30%; 1999-2001: 10% ea. Yr.	
						3 Years	5 Years
PERSON TABLES	*People_Header*	20 / 8	187	416,857	77,952,259	290,761,926	548,004,381
	Person	11 / 2.	145	416,857	60,444,265	225,457,108	424,923,183
	People_Demographics	36 / 6	381	208,048	79,266,288	295,663,254	557,242,005
	Person_Demographics	25 / 2	308	208,048	64,078,784	239,013,864	450,473,852
	People_Address	28 / 6	307	387,183	118,865,181	443,367,125	835,622,222
	Person_Address	23 / 2	313	387,183	121,188,279	452,032,281	851,953,601
	People_Characteristics	18 / 6	183	86,167	15,768,561	58,816,733	110,852,984
	Person_Physical_Attributes	11 / 2.	83	86,167	7,151,861	26,676,442	50,277,583
	People_Alternate_Name	13 / 5	160	59,084	9,453,440	35,261,331	66,457,683
	Person_Alternate_Name	10 / 2.	134	59,084	7,917,256	29,531,365	55,658,310
	People_Name_Change	10 / 4.	146	0	0	0	0
	Person_Name_Change	8 / 2.	130	0	0	0	0
	People_People_Index	11 / 5.	80	16,415	1,313,200	4,898,236	9,231,796
	Person_Related	8 / 2.	53	16,415	869,995	3,245,081	6,116,065
	People_Judge	9 / 6.	69	10	690	2,574	4,851
	Person_Judge	5 / 2.	48	10	480	1,790	3,374
	People_Attorney	10 / 4.	75	0	0	0	0
	Person_Attorney	7 / 2.	59	0	0	0	0
GENERAL CASE TABLES	*Case_People_Index*	12 / 7.	99	440,855	9,257,955	34,532,172	65,083,424
	Case_Role	7 / 2.	62	440,855	27,333,010	101,952,127	192,151,060
	Case_Header	26 / 10	241	124,628	30,035,348	112,031,848	211,148,496
	Case	16 / 2	84	124,628	10,468,752	39,048,445	73,595,327
	Event_Header	15 / 8	123	980,960	120,658,080	450,054,638	848,226,302
	Case_Event	9 / 2.	71	980,960	69,648,160	259,787,637	489,626,565
	Case_Trial_Information	25 / 4	191	0	0	0	0
	Case_Jury_Trial	15 / 2	127	0	0	0	0
	Case_Closing	13 / 7	116	111,985	12,990,260	48,453,670	91,321,528
	Case_Closed	7 / 2.	70	111,985	7,838,950	29,239,284	55,107,819
	Case_Case_Index	8 / 5.	86	5,220	448,920	1,674,472	3,155,908
	Case_Related	5 / 2.	58	5,220	302,760	1,129,295	2,128,403

TABLE TYPE	ICIS Table / JDW Table	Data Elements per Table: (Total / Admin)	Maximum Bytes per Record	Polk County: '97 Record Counts	Polk County: '97 Table Volumes (Bytes)	Projected Data Volumes: w/ Annual Growth Rates = 1998: 30%; 1999-2001: 10% ea. Yr.	
						3 Years	5 Years
ADULT-RELATED CASE TABLES	*Charge*	22 / 5	312	91,987	28,699,944	107,050,791	201,760,606
	Charge_Disposition	21 [a] / 2	180	91,987	16,557,660	61,760,072	116,400,350
	Adjudication	18 / 6	219	90,648	19,851,912	74,047,632	139,558,941
	Charge_Disposition	(from [a] above)	----	90,648	0	----	----
	Disposition	32 / 5 [b]	212	120,520	25,550,240	95,302,395	179,618,187
	Penalty	14+ / 2	108	120,520	13,016,160	48,550,277	91,503,605
	Disposition	(from [b] above)	----	120,520	----	----	----
	Penalty_Dollars	10 / 2.	126	120,520	15,185,520	56,641,990	106,754,206
	Disposition	(from [b] above	----	120,520	----	----	----
	Penalty_Time	12 / 2.	75	120,520	9,039,000	33,715,470	63,544,170
JUVENILE-RELATED CASE TABLES	*JCS_Incident*	16 / 4	328	5,221	1,712,488	6,387,580	12,038,791
	JCS_Incident	10 / 2.	172	5,221	898,012	3,349,585	6,313,024
	JCS_Charge	16 / 4	132	5,747	758,604	2,829,593	5,332,986
	JCS_Charge_Disposition	20 / 2 [c]	164	5,747	942,508	3,515,555	6,625,831
	JCS_Adjudication	15 / 4	141	**5,747**	810,327	3,022,520	5,696,599
	JCS_Charge_Disposition	(from [c] above)	----	5,747	----	----	----
	JCS_Intake_Decision	12 / 4.	108	5,122	553,176	2,063,346	3,888,827
	JCS_Intake_Decision	6 / 2.	77	5,122	394,394	1,471,090	2,772,590
	JCS_Disposition	18 / 4 [d]	212	0	0	0	0
	JCS_Penalty	15+ / 2	122	0	0	0	0
	JCS_Disposition	(from [d] above	----	0	----	----	----
	JCS_Penalty_Dollars	11 /2.	140	0	0	0	0
	JCS_Disposition	(from [d] above	----	0	----	----	----
	JCS_Penalty_Time	8 / 2.	71	0	0	0	0
	JCS_Informal_Agreement	10 / 4.	90	**2,611**	234,945	876,345	1,651,663
	JCS_Informal_Agreement	6 / 2.	77	**2,611**	201,009	749,762	1,413,090
	JCS_Placement	15 / 4	114	**261**	29,760	111,004	209,211
	JCS_Placement	10 / 2.	87	**261**	22,711	84,713	159,661
	JCS_Placement_Status	10 / 4.	93	**783**	72,833	271,667	512,016
	JCS_Placement_Status	5 / 2.	66	**783**	51,688	192,796	363,366
	JCS_Community_Service	13 / 4	105	**783**	82,231	306,721	578,082
	JCS_Community_Service	8 / 2.	78	**783**	61,086	227,850	429,432
	JCS_Community_Service_Worked	12 / 4.	154	**7,832**	1,206,051	4,498,570	8,478,539
	JCS_Community_Service_Status	6 / 2.	67	**7,832**	524,711	1,957,170	3,688,715

TABLE TYPE	*ICIS Table* / JDW Table	Data Elements per Table: (Total / Admin)	Maximum Bytes per Record	Polk County: '97 Record Counts	Polk County: '97 Table Volumes (Bytes)	Projected Data Volumes: w/ Annual Growth Rates = 1998: 30%; 1999-2001: 10% ea. Yr. — 3 Years	5 Years
REFERENCE TABLES	*Codes_Master*	7 / 4.	102	2,033	207,366	773,475	1,457,783
	Master_Code	5 / 2.	84	2,033	170,772	636,980	1,200,527
	SA_Defaults_Case_Sub_Tp	19 / 12 ?	111	140	15,540	57,964	109,246
	Case_Code	9 ? / 2	78	140	10,920	40,732	76,768
	SA_Defaults_Event_Sub_Tp	19 / 6?	113	419	47,347	176,604	332,849
	Event_Code	15 ? / 2	122	419	51,118	190,670	359,360
	SA_Charge_Allegation_Table	40 / 5	295	3,298	972,910	3,628,954	6,839,557
	Charge_Code	42 ? / 2	243	3,298	801,414	2,989,274	5,633,940
	Fin_Cd	20 / 4 ?	145	912	132,240	493,255	929,647
	Financial_Code	?	?	912	----	----	----
				Poke County ICIS Total ---->	**556,948,095**	**2,077,416,396**	**3,915,345,111**
				Polk County JDW Total ---->	**434,585,438**	**1,621,231,532**	**3,055,565,060**
				Statewide ICIS Total ---->	**3,219,353,153**	**12,008,187,259**	**22,632,052,663**
				Statewide JDW Total ---->	**2,512,054,553**	**9,371,280,535**	**17,662,225,780**

1. Polk County accounted for ~17% of the total '97 case volumes; the remaining 98 counties accounted for ~ 83%.

2. Polk County experienced a ~10% average Annual Growth Rate during '94-'97.

3. A 30% average Annual Growth Rate *for 1998 , for all counties,* was determined using the following assumptions, per '97 case volumes:
[Note: EAGR = *Estimated* Annual Growth Rate]

   * Counties with >100,000 Cases (Polk): ~124,600 + 10% AGR ('98) = 137,100
   * Counties with >10,000 Cases (13): ~334,900 + 25% EAGR ('98) = 416,600
   * Counties with < 10,000 Cases (85): ~ 259,700 + 75% EAGR ('98) = 454,400

   * **Average Annual Growth Rate:**
   Total '97 Cases / Total Cases (w/AGR)
   719,200 / 1,010,100 = 29.8%

4. The majority of the counties, including Polk, are not using all JCS application modules. As a result, there are no record volumes for the following Polk County database tables:
   * JCS_Adjudication
   * JCS_Disposition
   * JCS_Informal_Agreement
   * JCS_Placement
   * JCS_Placement_Status
   * JCS_Community_Service
   * JCS_Community_Service_Worked

5. Record count estimates for JCS tables (excluding JCS_Adjudication and JCS_Disposition) were determined using the following general assumptions:
   * 50% of all Incidents result in an Informal Agreement.
   * 15% of all Incidents result in Community Service.
   * 5% of all Incidents result in juvenile Placement.

6. Additional administrative data elements may be identified and added to the JDW as part of Physical Design.

8.0 APPENDICES (CONT'D)

8.3 Appendix C: Technical Assessment.

Table 5.1	(Characteristics of ITS Mainframes: Report Pg 40)
Table 5.2	Comparison of RDBMS Features
Table 5.3	Comparison of RDBMS Parallel Processing
Exhibit 5.4	(Skill Set Requirements: Report Pg 42 - 44)

(Exhibit 5.2)

Table 5.2: Comparison of RDBMS Features

RDBMS Feature	Teradata	Oracle	IBM DB2
Base Code Stability	Stable	Stable	Stable
Parallel Code Introduced	1984	1994 (Limited)	1995 (Limited)
Design Purpose	Online DSS/EIS analysis	Online transaction	Online transaction
Data Partitioning	Automated	Manual	Manual
Data Placement	Automated	Manual	Manual
Indexing	Hash placement Multiple per table	Bit map, Btree	B-Tree
Parallel Process	Unconditional	Very Conditional	Conditional
Table Joins	Nested loop Sort-Merge Hash	Nested loop Sort-Merge Hash	Nested loop Sort-Merge Hybrid
Optimizer	Mature, 5-join look ahead	Immature. Cost based.	Mature, for <4 table join.
Scalability	Largest in use for data and users.	Governed by amount of data, users, & joins.	Affected by query complexity & number of nodes
Availability	Very High	Very high.	Very High
System Management	Simple. Low staff involvement	Complex. High staff involvement	Complex. High staff involvement

(Exhibit 5.3)

Table 5.3: Comparison of RDBMS Parallel Processing

Parallel Process	Teradata	Oracle	IBM DB2
Table Scan	Yes	Conditional	Conditional
Index Scan	Yes	Conditional	Conditional
Index Read	Yes	Conditional	Conditional
Insert	Yes	Conditional	No
Join	Yes	Conditional	Conditional
Sort	Yes	Conditional	Conditional
Delete	Yes	Conditional	No
Update	Yes	Conditional	No
Load	Yes	Manual	Manual
Purge	Yes	Conditional	No
Pipelining	Yes	Conditional	No
Parse	Yes	No	No
Catalogue Read	Yes	Conditional	No
Statistics Collection	Yes	Conditional	No
Index Creation	Yes	Conditional	No
Backup & Restore	Yes	Yes	Manual
Sort & Aggregation	Yes	No	No

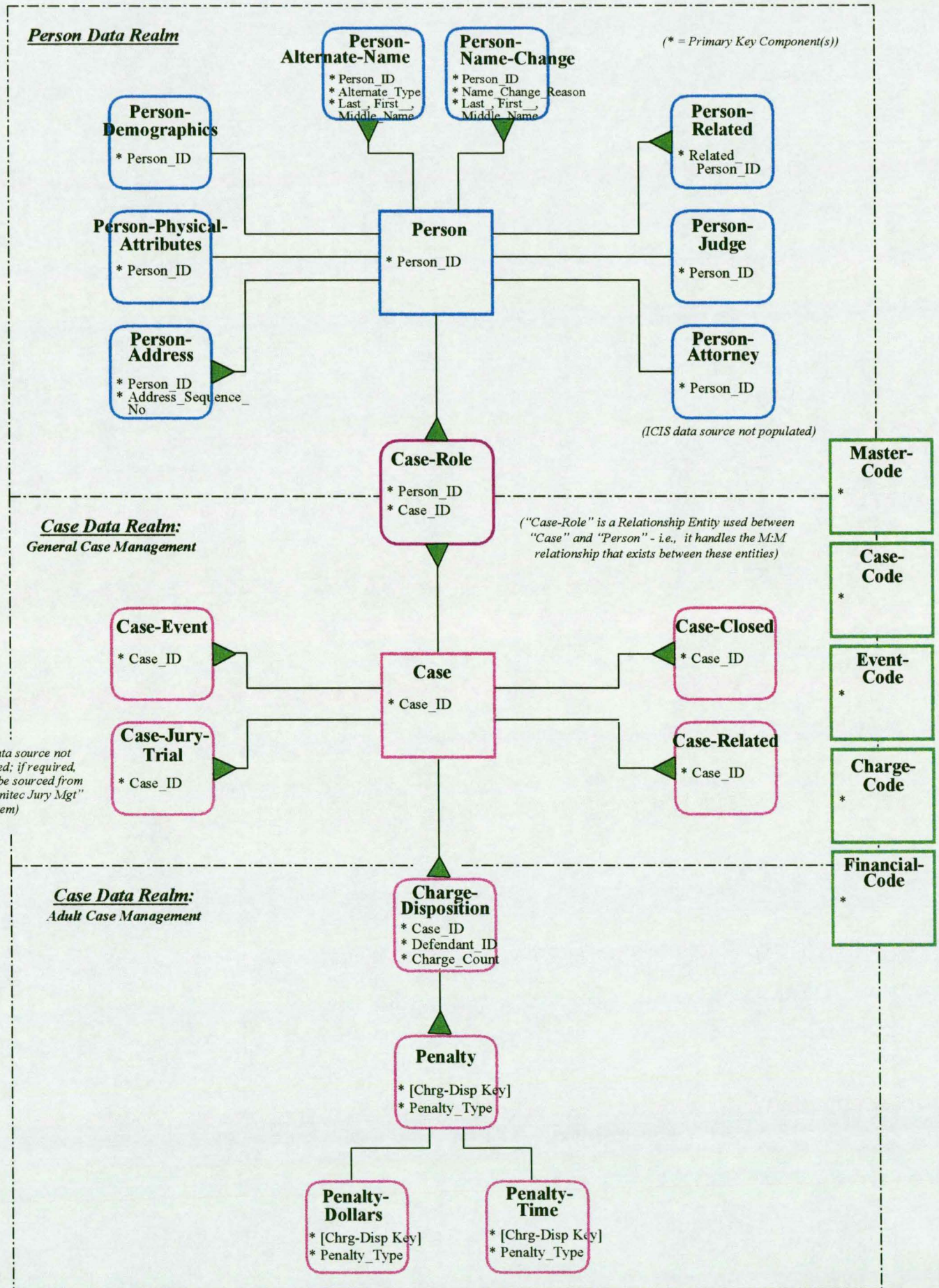
8.0 APPENDICES (CONT'D)

8.4 Appendix D: Logical Design.

Exhibit 6.1	JDW Logical Data Model
Exhibit 6.2	JDW Logical Data Model Documentation: Entity and Data Element Definitions

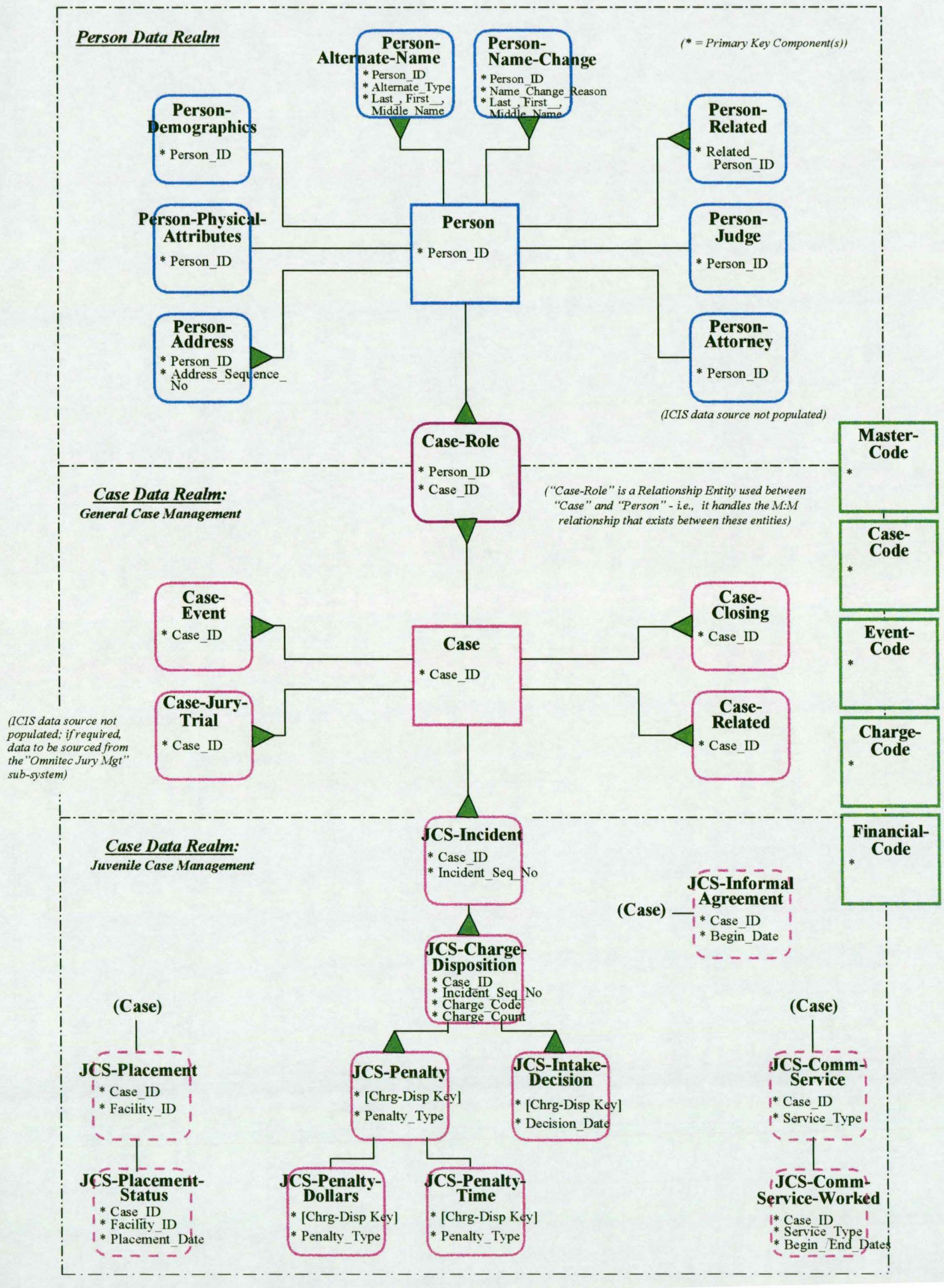
JDW LOGICAL DATA MODEL: First Business Module (Draft v2 / Adult)

Exhibit 6.1



JDW LOGICAL DATA MODEL: First Business Module (Draft v2 / Juvenile)

Exhibit 6.1



JDW Logical Data Model Documentation:
Entity and Data Element Definitions

Exhibit 6.2

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON	Primary Key: Person_ID	"Person" is an independent entity.	"Person" has 1:M reltnshps w/ "Person_Address", "Person_Alternate_Name", "Person_Name_Change", "Person_Related". "Person" has 1:1 reltnshps w/ "Person_Demographics", "Person_ Physical_Attributes", "Person_Judge", and "Person_Attorney"	
Person_ID	People_Header.People_ID	A unique ID identifying each individual in the "Person" table.	"Person" is an independent entity, i.e., it is not dependent on any other entity for its identity or existence. People_ID in the ICIS "People_Header" table is either a manually-entered SSN, or a system-generated sequential number, with the format: - chars 1-2: county code - char 3: the constant "1" (used to initiate Oracle's sequence generator) - chars 4-9: a system-assigned sequential number. Person_ID is the primary key.	char(9)
Person_Type	People_Header.People_Tp	Identifies an individual as an Attorney or Judge (at a minimum, for the prototype).	26 type codes exist today on ICIS in the "People_Tp" table (or in the "Codes_Master" table), identifying types of people as well as types of *firms, agencies, and facilities.* E.g., AT=Attorney, CF=County Facility, JP=Juvenile Parent, JU=Judge, JV=Juvenile, RA=Referring Agency. Need to determine whether to use Person_Type: - to identify non-people entities, as is currently done today (i.e., for firms, facilities, agencies, etc.); - values that may change over time (i.e., "Juvenile"); - values that are general (e.g., "State Employee", "General Public", etc.)	char(2)
First_Name	People_Header.First_Name			varchar(30)
Last_Name	People_Header.Last_Name			varchar(30)
Middle_Name	People_Header.Middle_Name			varchar(30)
Name_Suffix	People_Header.Name_Suffix	Identifies an abbreviated name suffix (e.g. Jr, Sr., III, etc.)		char(4)
Name_Title	People_Header.Name_Title	Identifies an abbreviated name title for an individual (e.g., Esq., Dr., Mr., Ms., Mrs.)		varchar(4)
Name_Change_Indicator	People_Header.Name_Change_Ind	Indicates if the individual has had at least one name change.	This is a binary field with values of null or "Y" to indicate a name change.	char(1)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Mail_Address_Type	People_Header.Mail_Address_Tp	Identifies the address type where an individual receives his or her mail (e.g., Home, Business, etc)	Uses the address types as specified in the "Address_Tp_Cd" table on ICIS. 7 address types currently exist on ICIS in the "Address_Tp_Cd" table (and "Codes_Master" table): Home, Parent/Relative, Business, Second, Third-Party, (Deceased – would we use ??), Unknown.	varchar(15)

Basic Business Rules:

- Every individual involved in a case is uniquely identified, and should have no more than one Person_ID. (There are, however, individuals with more than one ID because it was not known that they had been previously assigned a number.)
- Each individual involved in a case is identified by their Social Security Number. If a SSN is not available, an ICIS-generated ID is used.

Summary of Follow-up Activities:

- Determine: What "Person_Type" values will be carried into the prototype and into the full-scale warehouse.
- Consider: May want to consider modifying the datatype for People_ID, currently number(22), to a character field depending on the answers to following questions:. Bruce: What's its make-up ?? Is it an intelligent field ?? How many digits are used ?? Is the field used in numeric calculations?
- Determine: What are the definition for "AP_Check_Freq_CD" and "AP_Check_Stub_Ind" data elements ?? Are these elements needed ?? (Assume no)
- Determine: What are the definition for "Soundex" and "Pri_People_Rec_Ptr" data elements ?? Are these elements needed ??
- Determine: What administrative data elements are needed and should be added to the "Person" table (as part of physical design). ICIS currently includes: AP_Check_Freq_CD, AP_Check_Stub_Ind, Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_to_DTTM

Assumptions, Remarks, Issues, Concerns:

- Assumption: Data to be populated into the "Person" table FOR THE PROTOTYPE should be driven by the ICIS "People_Header" table and the ICIS "Case_People_Index" where the People_Header.People_ID equals "Case_People_IndexPeople_ID", and "Case_People_Index.People_Role_Code" is equal to those codes that are relevant for attorneys, offenders, and victims (and other codes as appropriate) *for criminal and juvenile cases only.*
- Remark: Data Elements -Total / Admin: ICIS 20 / 8; JDW LDM11 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_DEMOGRAPHICS	Primary Key: Person_ID.	"Person_Demographics" is a dependent entity.	"Person_Demographics" has a 1:1 relationship with "Person".	
Person_ID	People_Demographics.People_ID	A unique ID identifying an individual for whom one set of demographic data has been defined.	"Person_Demographics" is an extension to the "Person" table; it serves to provide additional information about an individual in the "Person" table. "Person_Demographics" is dependent on the "Person" table for its identity and its existence "Person_Demographics" has a 1:1 relationship with the "Person" table. The primary key is "Person_ID".	char(9)
Social_Security_No	People_Demographics.Soc_Sec_Nbr	The Social Security Number of an individual (in the "Person" table).	A value for this data element may not appear in the "People_ Demographics" table. If a value does not exist, it can be derived from "People_ID", for those cases where a valid Social Security Number has been used. A SSN can be identified on ICIS when the first two characters of "People_ID" are numeric.	char(9)
Birth_Date	People_Demographics.Birth_Dt			date
City_of_Birth	People_Demographics.City_of_Birth			varchar(20)
County_of_Birth	People_Demographics.County_of_Birth			varchar(20)
State_of_Birth	People_Demographics.State_of_Birth			char(2)
Country_of_Birth	People_Demographics.Country_of_Birth		184 country codes exist today in the ICIS "Country_Cd" table (and the "Codes_Master" table); one code "All" is used to represent all other countries that are not specifically defined.	char(3)
Citizenship	People_Demographics.Ctzn_Country_Cd		Utilizes the same country codes as referenced above. An individual can only be a citizen in one country within ICIS.	char(3)
Driver_License_Number	People_Demographics.Driver_Lic_Nbr	The drivers license number of an individual (in the "Person" table)		varchar(20)
Driver_License_Type	People_Demographics.Driver_Lic_Tp	The type of drivers license an individual possesses.	ICIS only supports one drivers license type per licensed individual. 7 type codes exist today in the ICIS "Driver_Lic_Tp" table (and the "Codes_Master" table): AU=Auto, BU=Bus, CH=Chauffeur, MO=Motorcycle, MB=Motorized Bicycle, RP=Restricted Permit, TR=Truck.	char(2)
Driver_License_State	People_Demographics.Driver_Lic_St	The state in which an individual's drivers license was issued.	Uses the state codes found in the ICIS "State_Cd" table (also in the "Codes_Master" table). "OC" is used to denote a non-USA, "out of country" license.	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Driver_License_Issue_Date	People_Demographics.Driver_Lic_Issue_Dt	The date in which an individual's drivers license was issued.		date
Employment_Status	People_Demographics.Employment_Sta		5 status codes exit today in the ICIS "Employment_Sta" table (or the "Codes_Master" table): DIS=Disabled, FTM=Full Time, RE=TRetired, PTM=Part Time, UEM=Unemployed.	char(3)
Occupation	People_Demographics.Occupation		The Occupation data element on ICIS is a free-form text field.	varchar(20)
Employer	People_Demographics.Employer		The Employer data element on ICIS is a free-form text field.	varchar(40)
Education	People_Demographics.School_Grade	The number of years of formal education an individual possesses.	23 educational codes exist today in the ICIS "Education_Primary_Cd" table (or the "Codes_Master" table): 01=first grade → 16=fourth year college, 17=college graduate; it also includes six codes for different disabilities: behavioral, hearing, learning, mental, physical, speech/communication.	varchar(2)
Marital_Status	People_Demographics.Marital_Status_Cd		10 status codes exist today in the ICIS "Marital_Status_Cd" table (or the "Codes_Master" table): C=Co-Habit, D=Divorced, E=Engaged, L=Common Law, M=Married, O=Other, P=Separated, S=Single, U=Unknown, W=Widowed.	char(1)
Maiden_Name	People_Demographics.Maiden_Nm			varchar(30)
Number_of_Children	People_Demographics.Nbr_of_Children			integer(2)
Spouse_Occupation	People_Demographics.Spouse_Occupation		The ICIS "Spouse_Occupation" field is a free-form text field.	varchar(20)
DCI_AFIS	People_Characteristics.DCI_AFIS_Fp_Class	What is this??	Is this needed ?? [A relatively new element on ICIS (may be of interest to DPS)]	varchar(20)
DCI_HNRY	People_Characteristics.DCI_HNRY_Fp_Class	What is this ??	Is this needed ?? [A relatively new element on ICIS (may be of interest to DPS)]	varchar(20)
FBI_Number - or - FBI_NCIC_Number	People_Demographics.FBI_Number - or - People_Characteristics.FBI_NCIC_Fp_Class	An FBI identification number identifying that the individual has been involved in a Federal case (?) FBI criminal class ?? What is this, more specifically ??	Are both FBI data elements needed ?? [FBI_NCIC_Fp_Class is a relatively new element on ICIS (may be of interest to DPS)]	varchar(9) - or - varchar(20)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Basic Business Rules:

- One set of demographic information is defined for each individual involved in the Iowa Court system.

Summary of Follow-up Activities:

- Determine: What type of individuals are demographic information maintained for ?? Defendants only ?? Are they kept for State employees as well (e.g., Public Defenders, Judges, etc.) ?? Are they maintained for anyone who is defined in the "People_Header" table ??
- Determine: What type of individuals *should* demographic information *be maintained for in the JDW* "Person_Demographics" table ??
- Determine: What is the difference between Home_County, County_of_Birth, and County_Cd ?? (Likewise for State)
- Determine: What is the meaning of the following data elements and should they be included in the LDM ?? (DCI_AFIS_FP_Class, DCI_HNRY_FP_Class, FBI_HNRY_FP_Class were moved and are currently in the JDW "Person_Demographic" table.)
  - People_Demographics.License_CLTP
  - People_Demographics.Endorsement_CLTP
  - People_Demographics.Restriction_CLTP
  - People_Demographics.Emancipation_Dt
  - People_Characteristics.DCI_AFIS_FP_Class
  - People_Characteristics.DCI_HNRY_FP_Class
  - People_Characteristics. FBI_NCIC_FP_Class
- Determine: What is the difference between FBI_NCIC_FP_Class in the "People_Characteristics" table and FBI_Number in the "People_Demographics" table ??
- Determine: What administrative data elements are needed and should be added to the "Person_Demographics" table (as part of physical design) ?? ICIS People_Demographics currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_to_DTTM

Assumptions, Remarks, Issues, Concerns:

- Assumption: Moved the following three data elements, orginating from the "People_Characteristics" table, into the JDW "Person_Demographics" table based on the assumption that they pertain to demographic information more so than to physical attributes or characteristics. (If false, move into "Person_Physical_Attributes" table)
  - DCI_AFIS_FP_Class
  - DCI_HNRY_FP_Class
  - FBI_NCIC_FP_Class
- Remark: Total Data Elements / Admin Data Elements: ICIS 36 / 6; JDW LDM 25 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_PHYSICAL_ATTRIBUTES	Primary Key: Person_ID	"Person_Physical_Attributes" is a dependent entity.	"Person_Physical_Attributes" has a 1:1 relationship with "Person".	
Person_ID	People_Characteristics.People_ID	An unique ID identifying an individual for whom one set of physical attribute data has been defined.	"Person_Physical_Attributes" is an extension of the "Person" table; it serves to provide additional information about an individual in the "Person" table. "Person_Physical_Attributes" is dependent on the "Person" table for its identity and its existence.. "Person_Physical_Attributes" has a 1:1 relationship with the "Person" table, and has inherited its key. "Person_ID" is the primary key.	char(9)
Sex	People_Characteristics.Sex_Code		3 sex codes currently exist on ICIS in the "Sex_Cd" table (or "Codes_Master" table): F=Female; M=Male; U=Unknown.	char(1)
Race	People_Characteristics.Race_Cd		8 race codes currently exist on ICIS in the "Race_Cd" table (or "Codes_Master" table): A=Asian, B=Black, C=Caucasian, H=Hispanic, I=Native American, O=Other, R=Oriental, S=Southeast Asian.	char(1)
Height	People_Characteristics.Height			decimal(3,1)
Weight	People_Characteristics.Weight			char(3)
Skin_Color	People_Characteristics.Skin_Color_Cd		16 color codes exist on ICIS in the "Skin_Color_Cd" table (or "Codes_Master" table): ALB=Albino, BLA=Black, BRO=Brown, DBR=Dark Brown, DRK=Dark, FAR=Fair, LBR=Light Brown, LGT=Light, MBR=Medium Brown, MED=Medium, OLV=Olive, RED=Red, RUD=Ruddy, SAL=Sallow, Wht=White, YEL=Yellow.	char(3)
Hair_Color	People_Characteristics.Hair_Color_Cd		10 color codes exist on ICIS in the "Hair_Color_Cd" table (or "Codes_Master" table): AUB=Auburn, BLA=Black, BLD=Bald, BLO=Blonde, BRO=Brown, GRY=Gray, PBD=Partially Bald, RED=Red, SDY=Sandy, WHT=White.	char(3)
Eye_Color	People_Characteristics.Eye_Color_Cd		8 color codes exist on ICIS in the "Eye_Color_Cd" table (or "Codes_Master" table): BLA=Black, BLU=Blue, BRO=Brown, GRN=Green, GRY=Gray, HZL=Hazel, MRB=Marbled, PNK=Pink.	char(3)
Physical_Marks	People_Characteristics.Physical_Marks	Physical marks that can be used to uniquely identify an individual. E.g., birthmarks, moles, scars, tatoos, etc.		varchar(40)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Basic Business Rules:

- One set of physical attribute data is defined for each defendant (? See below) involved in the Iowa Court system.

Summary of Follow-up Activities:

- Determine: What type of individuals are physcial characteristics maintained for ?? For defendants only ?? Are they kept for State employees as well (e.g., Public Defenders, Judges, etc.) ?? Are they maintained for anyone who is defined in the "People_Header" table ??

- Determine: What type of individuals should physical attribute information be maintained for in the JDW "Person_Physical_Attributes" table ??

- Determine: What is the meaning of the following data elements and should they be included in the LDM ?? (These data elements are currently in the JDW "Person_Demographics" table.)

  - People_Characteristics.DCI_AFIS_FP_Class
  - People_Characteristics.DCI_HNRY_FP_Class
  - People_Characteristics. FBI_NCIC_FP_Class

- Determine: What is the difference between FBI_NCIC_FP_Class in the "People_Characteristics" table and FBI_Number in the "People_Demographics" table ??

- Determine: What administrative data elements are needed and should be added to the "Person_Physical_Attributes" table (as part of physical design) ?? ICIS People_Characteristics currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_to_DTTM.

Assumptions, Remarks, Issues, Concerns:

- Assumption: Moved the following three data elements, orignating from the "People_Characteristics" table, into the JDW "Person_ Demographics" table based on the assumption that they pertain to demographics more so than to physical attributes or characteristics. (If false, move into "Person_Physical_Attributes" table)

  - DCI_AFIS_FP_Class
  - DCI_HNRY_FP_Class
  - FBI_NCIC_FP_Class

- Remark: Total Data Elements / Admin Data Elements: ICIS 18 / 6; JDW LDM 11 / 2 (est)

-

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_ADDRESS	Primary Key: Person_ID, Address_Sequence_No	"Person_Address" is a dependent entity.	"Person_Address" has a 1:1 relationship with "Person".	
Person_ID	People_Address.People_ID	A unique ID identifying the individual for whom an occurrence of one or more addresses has been defined.	Part of the primary key (*Person_ID*, Address_Sequence_No). "Person_Address" is an extension of the "Person" table; it provides additional information about an individual in the "Person" table. "Person_Address" is dependent on the "Person" table for its identity and its existence. "Person_Address" has a 1:1 relationship with the "Person" table. "Person" has a 1:M relationship with the "Person_Address" table. When more than one address is present in the "Person_Address" table, the current address is the one which has no Address_End_ Date. This address will also be used for the Mail_Address in the "Person" table.	char(9)
Address_Sequence_No	People_Address.Address_Seq	A unique ID identifying the number and order of the address at which an individual has lived / is living (i.e., all current and past address locations).	Part of the primary key (Person_ID, *Address_Sequence_No*). One individual can have multiple addresses, current and past, in the "Person_Address" table (i.e., a one-to-many relationship exists between the "Person" table and the "Person_Address" table).	varchar(2)
Address_Type	People_Address.Address_Type_Cd	Identifies the type of address stored (e.g., Home, Business, etc.).	7 address types currently exist on ICIS in the "Address_Tp_Cd" table (or "Codes_Master" table): H=Home, P=Parent/Relative, B=Business, S=Second, T=Third-Party, D=Deceased, U=Unknown.	char(1)
Address_Begin_Date	People_Address.Address_Begin_Dt	The first day in which the address was effective and valid for an individual.		date
Address_End_Date	People_Address.Address_End_Dt	The last day in which the address was effective and valid for an individual.		date
Address_Source	People_Address.Address_Src_Cd	The State agency responsible for obtaining the address information on an individual. (?)	6 address sources currently exist on ICIS in the "Address_Scr_Cd" table (or "Codes_Master" table): DHS, DOC, DOT, DPS, IRS, JUD (i.e., Iowa Judicial Department).	char(3)
Address_Line_1	People_Address.Street	First address line, typically used for the street address.		varchar(40)
Address_Line_2	People_Address.Address_Text_2 (extracted when People_Address Address_Line_ 2 = "2")	A second address line, optionally used for additional addressing information (e.g., apartment or unit number).		varchar(60)
Address_Line_3	People_Address.Address_Text_3 (extracted when People_Address Address_Line_ 3 = "3")	A third address line, optionally used for additional addressing information (e.g., mail station, etc.)		varchar(60)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
City	People_Address.City		City codes, names and their respective counties are listed in the reference table "Cnty_City_Cd" table.	varchar(20)
City_Code	People_Address.City_Cd		City codes, names and their respective counties are listed in the reference table "Cnty_City_Cd". City (its name) and City_Code are both included for convenience to the user; City could be eliminated and its name determined via referencing City_Code within a 'look-up' table.	char(2)
State_Code	People_Address.State_Cd		Unlike City, County, and Country, State *has not* been included in the "Person_Address" table. If necessary, State_Code can be referenced via use of a 'look-up' table (i.e., "State_Cd" or "Codes Master"). If desirable, State_Code can be included for convenience to the user. 53 state codes exist on ICIS in the "State_Cd" table (or the "Codes Master" table). In addition to the conventional codes for the 50 states, codes have been included for: DC = District of Columbia, OC = Out of Country, and PR = Puerto Rico.	char(2)
County	People_Address.County			varchar(20)
County_Code	People_Address.County_Cd		County codes and their respective descriptions (i.e., names) are listed in the reference table "County_Cd". County and County_Code are both included for convenience to the user; County could be eliminated and its name referenced via use of a 'look-up' table.	char(2)
Country	People_Address.Country			varchar(30)
Country_Code	People_Address.Country_Cd		184 country codes exist today in the ICIS "Country_Cd" table (and the "Codes_Master" table); one code "All" is used to represent all other countries that are not specifically defined. Country and Country_Code are both included for convenience to the user; Country could be eliminated and its name referenced via use of a 'look-up' table.	char(3)
Zip_Code_5	People_Address.Zip_1	Identifies the standard five-digit zip code in an individual's address.		char(5)
Zip_Code_Plus_4	People_Address.Zip_2	Identifies the additional four-digit zip code used in combination with the standard five-digit zip code, in an individual's address.		char(4)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Jurisdiction	People_Address.Jurisdiction_Cd	Identifies the county jurisdiction in which the address resides.	2 codes exist on ICIS in the "Jurisdiction_Cd" table (or the "Codes_Master" table): 1 = First Jurisdiction, 2 = Second Jurisdiction. Determine: Do users need this designation ??	
Area_Code	People_Address.Area_Code			char(3)
Phone_Number	People_Address.Phone_Nbr			char(7)

Basic Business Rules:

- Address information is maintained for each "individual" involved in the Iowa Court System.
- Each individual involved in / with the Iowa Court System must have at least one known set of address information (i.e., pertaining to their residential address).

Summary of Follow-up Activities:

- Determine: What type of individuals is address information maintained for in ICIS ?? For defendants only ?? Are they kept for State employees as well (e.g., Public Defenders, Judges, etc.) ?? Are they kept for all individuals maintained in the "People_Header" table, including non-person entities (e.g., firms, agencies, and facilities) ??
- Determine: What type of individuals should address information be maintained for in the JDW "Person_Address" table ?? Should this include those same individuals for whom demographic and physical attribute information is maintained in JDW as well ??
- Verify: Each individual involved in / with the Iowa Court System must have at least one known set of address information (i.e., pertaining to their residential address). Is it possible that an individual may not have any address defined on ICIS ??
- Determine: Do users need Jurisdiction_Code ?? Is it used regularly ?? Is it assigned consistently ??
- Define: What is the data definitions for Facility_ID with respect to address ?? Is it needed / should it be added to the LDM ?? Shouldn't this be part of the "People_Header" / "Person" table ??
- Determine: What administrative data elements are needed / should be added to the "Person_Address" table (as part of physical design). ICIS currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_to_DTTM

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 28 / 6; JDW 23 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_ALTERNATE_NAME	Primary Key: Person_ID, Alternate_Type, Last_Name. First_Name, Middle_Name	"Person_Alternate_Name" is a dependent entity.	"Person_Alternate_Name" has a 1:1 relationship with "Person".	
Person_ID	People_Alternate_Name.People_ID	A unique ID identifying an individual (from the "Person" table) for whom at least one alternate name has been established.	Part of the primary key (*Person_ID*, Alternate_Type, Last_Name, First_Name, Middle_Name) "Person_Alternate_Name" is dependent on "Person" for its identity and existence. One individual can have multiple alternate names in the "Person_Alternate_Name" table (i.e., a 1:M relationship exists between the "Person" table and the "Person_Alternate_Name" table). The First_, Middle_, and Last_Name must be a part of the primary key to distinguish between the multiple alternate names that an individual may have established for the same purpose (e.g., aliases), and that were entered into ICIS on the same date. (Verify on ICIS. This would seem to be a poor choice of keys; may want to change this for the JDW based on what the data shows.)	char(9)
Alternate_Type	People_Alternate_Name.Name_Code	Identifies the type or manner in which an alternate name is used by an individual.	Part of the primary key (Person_ID, *Alternate_Type*, Last_Name. First_Name, Middle_Name) 12 name codes exist on ICIS in the "***Alias_Tp***" table (or "Codes_Master" table): AKA=Also Known As, BTH=Birth, COM=Committed, COO=Court Ordered, DBA=Doing Business As, FKA=Formerly Know As, MAR= Married, MDN=Maiden Name, NCK=Nickname, NKA=Now Known As, OBO=On Behalf Off, OTH=Other	char(3)
Alternate_Name_Date	People_Alternate_Name.Name_Dt - or - People_Alternate_Name.Create_DTTM	The date an alternate name was entered into ICIS by 1) a county clerk, or 2) the ICIS system		date
Alias_Indicator	People_Alternate_Name.Name_Type	Identifies if an alternate name is being used as an alias or for other purposes.	May want to use flag-type value, like Y / N. 2 type codes exist on ICIS in the "People_Alternate_Name" table: A=True Alias, P= Other Alternate. This value is system-generated via the user's application. (May want to consider combining the alias and reason code data elements into one.)	char(1)
Reason_Code	People_Alternate_Name.Reason_Code	The reason an individual has established a particular alternate name.	5 reason codes exist on ICIS in the "*Alias*_Reason_Cd" table (or "Codes_Master" table): A=Alternate Designation, L=Legal Document, M=Mailing Address Only, P=Personal Preference, S=Split Personality	char(1)
First_Name	People_Alternate_Name.First_Nm		Part of the primary key (Person_ID, Alternate_Type, Last_Name, *First_Name*, Middle_Name, Last_Name)	varchar(30)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Middle_Name	People_Alternate_Name.Mid_Nm		Part of the primary key (Person_ID, Alternate_Type, Last_Name, First_Name, *Middle_Name*, Last_Name)	varhar(30)
Last_Name	People_Alternate_Name.Last_Nm		Part of the primary key (Person_ID, Alternate_Type, Last_Name, First_Name, Middle_Name, *Last_Name*)	varchar(30)

Basic Business Rules:

- An individual may possess / use one or more alternate names.

Summary of Follow-up Activities:

- Determine: Is the ICIS "People_Alternate_Name" table being used at all or consistently throughout the State ??
- Verify: Verify the key for the ICIS "People_Alternate_Name" table. This would seem to be a poor choice of keys; may want to change this for the JDW based on what the data shows.
- Verify: Verify if the "People_Alias" table is being used on ICIS via Create_DTTM and Sytem_DTTM; the assumption is that it *is not*.
- Consider: Check to determine if it makes sense to combine the alias indicator and reason code data elements into one.
- Determine: What administrative data elements are needed / should be added to the "Person_Alternate_Name" table (as part of physical design) ?? The ICIS "People_Alternate_Name" table currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_to_DTTM (no Sent_To_DHS data element).

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 13 / 5; JDW 10 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_NAME_CHANGE	Primary Key: Person_ID, Name_Change_ Reason, Last_Name, First_Name, Middle_ Name.	"Person_Name_Change" is a dependent entity.	"Person_Name_Change" has a 1:1 relationship with "Person"..	
Person_ID	People_Name_Change.People_ID	A unique ID identifying an individual (from the "Person" table) whose name has been changed at least once.	The "Person_Name_Change" tables stores all *previous* names held by an individual; the "Person" table stores the *current* name by which an individual is known. "Person_Name_Change" is dependent on "Person" for its identity and existance. One individual can change their name one or more times (i.e., "Person" has a 1:M relationship with the "Person_Name_ Change"..table). "Person_Name_Change" has a 1:1 relationship with "Person". Person_ID is part of the primary key (*Person_ID*, Name_Change_ Reason, Last_Name, First_Name, Middle_ Name.). The First_, Middle_, and Last_Name currently appear as part of the primary key to distinguish between the multiple name changes that may have occurred for an individual for the same reason, and that were entered into ICIS on the same date. (e.g., when a clerk re-enters a name incorrectly twice in one day). (Verify on ICIS; this would seem to be a poor choice of a key. May want to change the key for the JDW based on what the data shows.)	char(9)
Name_Change_Reason	People_Name_Change.Name_Change_Code	Identifies the reason an individual's name has been changed (e.g., marriage, personal preference, original name, etc.).	Part of the primary key (Person_ID, *Name_Change_Reason*, Last_Name, First_Name, Middle_Name). 7 change codes exist on ICIS in the "Name_Change_Cd" table (or the "Codes_Master" table): G=Gave False Name, M=Marriage, N=Naturalization/Citizenship, O=Orignal Name, P=Personal Preference, S=Spelling Error, U=Unidentified/Miscellaneous.	char(1)
Name_Change_Date	People_Name_Change.Name_Dt	The date in which an individual changed his or her prior name (i.e., the date in which this name was last effective).		date
Last_Name	People_Name_Change.Last_Name	A prior last name of an individual whose name has been changed.	Part of the primary key (Person_ID, Name_Change_Reason, *Last_Name*, First_Name, Middle_Name).	varchar(30)
First_Name	People_Name_Change.First_Name	A prior first name of an individual whose name has been changed.	Part of the primary key (Person_ID, Name_Change_Reason, Last_Name, *First_Name*, Middle_Name).	varchar(30)
Middle_Name	People_Name_Change.Middle_Name	A prior middle name of an individual whose name has been changed.	Part of the primary key (Person_ID, Name_Change_Reason, Last_Name, First_Name, *Middle_Name*).	varhar(30)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Basic Business Rules:

- An individual within the Iowa Court system may change their name multiple times.

Summary of Follow-up Activities:

- Determine: Is the ICIS "People_ Name_Change" table being used at all, or consistently, throughout the State ??
- Verify: Verify the key in "People_Name_Change" on ICIS. (It would seem to be a poor choice of a key; may want to change the key for the JDW based on what the data shows.)
- Determine: What administrative data elements are needed / should be added to the "Person_Name_Change" table (as part of physical design) ?? ICIS currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN (no Sent_To_DHS or Sent_to_DTTM data elements).
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Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 10 / 4; JDW 8 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_RELATED	Primary Key: Person_ID, Related_Person_ID	"Person_Related" is a dependent entity.	"Person_Related" has a 1:1 relationship with "Person".	
Person_ID	People_People_Index.People_ID	A unique ID identifying an individual in the court system (i.e., a defendant) for whom a relationship has been recognized with one or more individuals.	"Person_Related" is a subtype entity to the "Person" entity. "Person_Related" is dependent on "Person" for its identity and existance. "Person_Related" was most likely established to represent blood or family-related relationships; today it is used to represent social as well as work-related affiliations. Person_ID is part of the primary key (*Person_ID*, Related_ Person_ID) An individual in the court system can have zero, one, or many recognized relationships with other individuals . There is a 1:M relationship between the "Person" table and the "Person_Related" table. There is a 1:1 relationship between "Person_Related" and the "Person" table.	char(9)
Related_Person_ID	People_People_Index.Related_Person_PIN	A unique ID identifying a individual for whom a relevant relationship has been recognized with an individual in the court system.	Related_Person_ID is a 'synonyme' for Person_ID, and must exist in the "Person" table. Related_Person_ID is part of the primary key (Person_ID, *Related_Person_ID*)	char(9)
Relationship	People_People_Index.Related_Person_Rsn_Cd	Identifies the relationship an individual has to the individual in the court system.	21 reason codes exist in the ICIS "Related_Person_Rsn_Cd" table (or the "Codes_Master" table): BROT=Brother, CDEF=Co-defendant, CHLD=Child, COHA=Cohabitant, COOF=Co-offender, COWN=Co-owner, CPLT=Co-plaintiff, FATH=Father, FRND=Friend, GANG=Gang, MOTH=Mother, NBFR=Next Best Friend (!!), NONE=None, OTHR=Other, PART=Parents, PRTN=Business Partner, RELT=Relative, SIBL=Sibling, SIST=Sister, SPOU=Spouse, VICT=Victim May not want to represent case role relationships (co-defender, co-offender, plaintiff, and victim, etc) in the "Person_Related" table if they are redundant with their respective roles in the "Case_Role" table.	char(4)
Relationship_Status	People_People_Index.People_People_Status_Cd	Identifies the status of the relationship an individual has to the individual in the court system.	Relationhip_Status can be updated. 5 status codes exist in the ICIS "People_People_Status_Cd" table (or the "Codes_Master" table): A=Active, D=Dropped Out(N/A?), I=Inactive, M=Moved Out, S=Separated.	char(1)
Relationship_Status_Date	People_People_Index.People_People_Status_Dt	The date when the relationship status was initially established or subsequently changed.		date
JCS_Indicator	People_People_Index.JCS_Ind	Indicates whether the related individual in	A flag indicator such as "Y" or "N" can be used.	

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
		question is related to a juvenile in the Juvenile Court System.	This data element may be / is provided for user convenience. It is derived via the "Person_Demographics" table (or "Person" if = JV is left as part of the Person_Type domain) when cross-referencing "Person_ID".	

Basic Business Rules:

- A defendant may have one or more individuals for whom the Court recognizes as being related to the defendant; these relationships can include blood or family relationships, social relationships, and/or work-related affiliations.

Summary of Follow-up Activities:

- Validate: It is assumed that the only individuals for whom relationships are defined in the "People_People_Index" table are defendants (i.e., where Role_Code = "Defendant" in "Case_Role" table).
- Validate: It is assumed that relationships in the "People_People_Index" table can be defined for social and work-related affiliations, in additions to blood or family-related relationships.
- Determine: Do users need more than just defendants for whom relationships are defined in the "Person_Related" table ??
- Identify: How / when do related individuals get entered into ICIS / "People_People_Index" table ?? Eg., does a juvenile's parent or guardian get entered as a matter of court process, or only if they are directly involved in the case ??
- Consider: May *not* want to represent case role relationships (co-defender, co-offender, plaintiff, and victim, etc) in the "Person_Related" table if they are redundant with their respective roles in the "Case_Role" table.
- Identify: What administrative data elements are needed / should be added to the "Person_Related" table (as part of physical design) ?? ICIS / "People_People_Index" currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_to_DTTM (no Sent_To_DHS data element).

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 11 / 5; JDW 8 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_JUDGE	Primary Key: Person_ID	"Person_Judge" is a dependent entity.	"Person_Judge" has a 1:1 relationship with "Person"	
Person_ID	People_Judge.Judge_PIN	A unique ID identifying an individual who works in a judicial position (aka a "judge").	"Person_Judge" is a subtype entity to the "Person" entity and therefore inherits its key → Person_ID "Person_Judge" is dependent on "Person" for its identity and existance. Person_ID is the primary key. Person_ID should be validated against People_ID in the "People_Header" table.	char(9)
Judge_Type	People_Judge.Judge_Tp	Identifies the judicial position an individual holds.	10 type codes exist today in the ICIS "Judge_Tp" table (or the "Codes_Master" table): AJ=Associate District Judge, CA=Court of Appeals Judge, DJ=District Court Judge, HR=Hospitalization Referee, JR=Juvenile Referee, MG=Magistrate Judge, PR=Probate Referee, SC=Supreme Court Justice, SJ=Senior Judge, UN=Unknown.	date
District_Code	People_Judge.Dist_Cd	Indentifies the district in which the judge presides.		char(9)

Basic Business Rules:

- [What business rule if any (is required to) identifies an individual as a judge ?? What ICIS data element(s) is required …. ??]

Summary of Follow-up Activities:

- Determine: What is a court attendant vs. a court reporter, and why would they be associated with a judge ?? Do these data elements need to be a part of the warehouse LDM ?? (assume no)
- Determine: Is there a need for judge conflict data to be added to the warehouse ?? (Could potentially be added to the "Person_Judge" table.) Currently this data is not included in the LDM.
- Determine: What administrative data elements are needed / should be added to the "Person_Judge" table (as part of physical design) ?? ICIS / "People_Judge" currently includes: Court_Attendant_PIN (?), Court_Reporter_PIN (?), Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_to_DTTM (no Sent_To_DHS or Sent_to_DTTM data elements).
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Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 9 / 6; JDW 5 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PERSON_ATTORNEY	Primary Key: Person_ID	"Person_Attorney" is a dependent entity.	"Person_Attorney" has a 1:1 relationship with "Person"	
Person_ID	People_Attorney.Attny_PIN	A unique ID identifying an individual who works as an Attorney.	"Person_Attorney" is a subtype entity to the "Person" entity and therefore inherits its key → Person_ID "Person_Attorney" is dependent on "Person" for its identity and existance. Person_ID should be validated against People_ID in the "People_Header" table.	char(9)
Firm_ID	People_Attorney.Firm_ID	Identifies the firm for which an attorney works.	Attorneys that are State employees are not a part of this entity (i.e, are not listed in this table). "Firm_ID" is a synonym for Person_ID, as found in the "Person" table. Its value should be validated using Person_ID in the "Person" table	char(9)
Attorney_Status	People_Attorney.Attorney_Status_Cd	The current status of an attorney in the firm of his/her employ (e.g.,		char(1)
Attorney_Status_Date	People_Attorney.Attorney_Status_Dt	Identifies the date in which an attorney's status was last changed.		date
Bar_Admissions_Date	People_Attorney.Bar_Admission_Dt			date

Basic Business Rules:

- [What business rule if any (is required to) identifies an individual as an attorney?? What ICIS data element(s) is required …. ??]

Summary of Follow-up Activities:

- Determine: Is there a need for attorney information in the JDW ??
- Identify: What is the function of the "People_Attorney_Criminal" table ?? To track attorneys that have been charged and/or convicted of a criminal act ?? If so, is there a need for this data in the JDW ??
- Identify: What is the Mode_of_Admission field in the ICIS "People_Attorney" table ?? Do users need ??
- Determine: What administrative data elements are needed / should be added to the "Person_Attorney" table (as part of physical design) ?? ICIS / "People_Attorney" currently includes: Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN,

Assumptions, Remarks, Issues, Concerns:

- Remark: The **"People_Attorney" table is *not used*. If** this data *is needed in the JDW*, the business process will need to change to force the use of the appropriate ICIS transaction and the population of this table.
- Remark: Total Data Elements / Admin Data Elements: ICIS 10 / 4; JDW 7 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE_ROLE	Primary key: Case_ID, Person_ID	"Case_Role" is a dependant relationship entity.	"Case_Role" has a 1:1 relationship with "Person". "Case_Role" has a 1:1 relationship with "Case"	
Case_ID	Case_People_Index.Case_ID	A unique ID identifying a specific case.	"Case_Role" is a 'relationship table' that supports the existence of multiple cases per person, and multiple persons per case (i.e., the "Case_Role" table replaces the M:M relationship that would otherwise exist between the "Person" and "Case" entities). "Case_Role" is dependant on both the "Case" and "Person" entities for its identity and existence. "Case_Role" has a 1:1 relationship with "Person". "Person" has a 1:M relationship with "Case_Role". "Case_Role" has a 1:1 relationship with "Case". "Case" has a 1:M relationship with "Case_Role". Case_ID is part of the primary key (*Case_ID*, Person_ID) Case_ID is a foreign key attribute migrated from the "Case" entity.	char(17)
Person_ID	Case_People_Index.Primary_Person_ID	A unique ID identifying a specific individual participating in a specific case.	Person_ID is part of the primary key (Case_ID, *Person_ID*) Person_ID is a foreign key attribute migrated from the "Person" entity.	char(9)
Role_Code	Case_People_Index.People_Role_Cd	Identifies the role that an individual played in a specific case (Attorney, Defendant, Judge, etc.)	99 role codes exist on ICIS in the "Role_Cd" table (or the "Codes_Master" table). - There are 13 different types of attorneys listed, *none* of which are specifically identified as prosecuting attorneys, public defenders, or co-attorneys (ie., second chair). There is a "Court Appointed Special Advocate"; this, however, is not the same as an appointed attorney. - Other general role types include: Defendant, Judge, Juror, Victim, and Witness (4 types). - There are numerous other roles that most likely *will not be included* in either the prototype or the full-scale JDW.	char(4)
Person_Role_Status	Case_People_Index.Case_People_Sta	Identifies the status of an individual participating in his / her case-specific role.	5 status codes exist on ICIS in the "Case_People_Sta" table (or the "Codes_Master" table): AC=Active, DS=Dismissed, IJ=Inactive JCO (Juvenile Court Officer), IN=Inactive, WD=Withdrawn.	varchar(2)
Person_Role_Status_Date	Case_People_Index.Case_People_Sta_Dt	Identifies the date in which the status, defined for an individual participating on a case, was established or modified to its current value.		date

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Basic Business Rules:

- Defendants:
  1. A defendant may be involved in more than one case. From a business perspective, a case involves only a single defendant. However, since ICIS was designed to support multiple defendants, the JDW will also need the means to support multiple defendants (in case multiples are present).
  2. Defendants are *characterized* as an adult or juvenile based on their *age*. A Juvenile can however, be *tried* as an adult under certain circumstances.
- Victims:
  1. Victims are related to cases; *they are not related to charges.*
  2. A victim can be involved in multiple cases; a case can involve multiple victims.
- Attorneys:
  1. A case can involve multiple attorneys for the prosecution, and multiple attorneys for the defense.
  2. An attorney may be involved in one or more / multiple cases; and with multiple charges, in one or more cases.
  3. There are different types of indigent attorneys: public defender, contract, and appointed. Currently ICIS does not support the identification of contract or appointed defense attorneys.
  4. An attorney may defend indigent and non-indigent cases. Public defenders may only defend indigent cases.

Summary of Follow-up Activities:

- Determine: Which role codes will be used in the prototype and in the full-scale JDW.
- Determine: What administrative data elements are needed / should be added to the "Case_Role" table (as part of physical design) ?? ICIS / "Case_People_Index" currently includes: Create_DTTM, Create_PIN, Security_Level_Cd, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_To_DTTM.
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Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 12 / 7; JDW 7 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE	Primary Key: Case_ID	"Case" is an independent entity.	"Case" has 1:M reltnshps w/"Case_Role", "Charge", "JCS_Incid." "Case" has 1:M relationships w/ "Case_Event", "Case_Jury_ Trial", "Case_Closed", and "Case_Related". "Case" has 1:1 reltnshps w/ "JCS_Informal_Agreem't", "JCS_ Community_Service", and "JCS_Placement" (may chg desgn).	
Case_ID	Case_Header.Case_ID	Unique ID identifying a case	"Case" is an independent entity; it does not depend on any other entity for its existence or identity. "Case" has 1:M relationships with "Case_Role", "Charge", "JCS_Incident", "Case_Event", "Case_Jury_Trial", "Case_ Closing", and "Case_Related". "Case" has 1:1 relationships with "JCS_Informal_Agreement", "JCS_Community_Service", and "JCS_Placement". (Design flaws or business req'ts??) Case ID is the primary key. Case ID is an intelligent field comprised of 17 characters: - chars 1-2: district - chars 3-4: county - char 5: jurisdiction - char 6-7: city code - char 8-9: case type - char 10-11: case type group - 12-17: case number The two-character 'case type group' is a higher-level means to categorize cases (e.g., criminal, civil, juvenile, probate, etc.). It should follow city code as the next logical level in the naming hierarchy; however, it doesn't because it was added as an after thought. Need to determine if this is a state-wide standard. The first two characters in the six-character 'case number' were originally intended to store the year the case was established. Need to verify if this is still the rule. The remaining four characters of the six-character 'case number' are sequentially generated by ICIS.	char(17)
Case_Type	Case_Header.Dup_Case_Tp	Highest / first-level means to describe a case via categorizing into one of 44 Types. E.g.: Aggravated Misdemeanor, Appeal for Criminal, Domestic Abuse, Felony, Juvenile, Probation Revocation, etc.	"Duplicate_Case_Type" is derived and populated from the eighth and ninth characters of the Case_ID field. 44 type codes exist on ICIS in the "Case_Tp" table (or the "Codes_Master" table). Some examples include: SM=Simple Misdemeanor, AG=Aggregated Misdemeanor, SR=Serious Misdemeanor, FE=Felony, DA=Domestic Abuse, PR=Probation Revocation. A juvenile case is defined as Case_Tp="JI" (i.e., Juvenile Intake) within the Juvenile Court System; or as Case_Tp="JV" (i.e., Juvenile) and Case_Sub_Tp="JD" (i.e., Juvenile Delinquent) *(However, these codes do not indicate when a Juvenile is*	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			tried as an adult, in adult court.)	
Case_Subtype	Case_Header.Case_Sub_Tp	Second-level means to describe a case via categorizing a case into one of 137 Subtypes. E.g.: For Case Type = Aggravated Misdemeanor, Subtypes = Probate Revocation, Parole Violation	137 subtype codes exits on ICIS in the "SA_Defaults_Case_Sub _Tp" table. E.g., AV=Parole Violation, FM=Murder, A2=Voluntary Substance Abuse. *Only one subtype can be associated with a case.*	char(2)
Case_Nature	Case_Header.Nature_Cd	Lowest / third-level means to describe a case via categorizing the nature / character of a case into one of nine codes.	9 nature codes exist on ICIS in the "Nature_Cd" table (or in the "Codes_Master" table): ALCH=Alcohol Related, ASSL=Assualt, DOMA=Domestic Abuse, DRUG=Drug Involvement, MALP=Malpractice, PROP= Property, SEXA=Sexual Abuse, THFT=Theft, VAND=Criminal Mis / Vandalism.	char(4)
Court_Type	Associate like People_IDs that are in relatively close proximity of time, where the first occurrence of the ID can be found as a juvenile per ICIS Case_Type / Case_Sub_Tp, and the second occurrence can be found classified as an adult ICIS Case_Type / Case_Sub_Tp (**)	Court in which individual was tried: in adult or juvenile court	This field is intended to be a means for users to quickly determine if a juvenile was tried as an adult. ** Analysis must be done to determine if this is a straight-forward way to derive an assignment for Court_Type, or if there is a better way.	char(1)
Case_Title	Case_Header.Title	The title of the case identifies who is bringing suit against whom, e.g., The State of Iowa vs. John Doe.		
Case_Initiation_Date	1. Case_Header.Case_Initiated_Dt .... - OR - 2. Case_Header.Create_DTTM	The date when the appropriate papers were filed with the county clerk, officially initiating the case. .	Issue: The case initiation date is not used consistently; it is often filled in with the date that the case was entered on ICIS (i.e., the "Create_DTTM"). We could elect to use the Create_DTTM and thereby ensure consistency of data; or use Case_Initiated_Dt knowing that it may be more representative of reality, but contain a fair amount inconsistencies.	date
County	Case_Header.Dup_County_Code - or - Case_Header.County_Code	County in which case is tried.	Dup_County_Code is derived and populated from the third and fourth characters in its associated Case_ID (the most accurate county-assignment source)	char(2)
District	Derived from value in Case_Header.Case_ID	Court District in which case is tried.	Derived and populated from the first and second characters in Case_ID	char(2)
Arresting_Agency	Case_Header.Arresting_Agency_PIN	The law enforcement agency responsible for making the arrest.	All agencies and their descriptions are in ICIS in the "People_Header" and related tables.	char(9)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Assigned_Judge_Type	Case_Header.Assigned_Judge_Tp	The type or level of judge assigned to the case.	10 type codes exist on ICIS in the "Judge_Tp" table (or in the "Codes_Master" table); AJ=Associate District Judge, CA=Court of Appeals Judge, DJ=District Court Judge, HR=Hospitalization Referee, JR=Juvenile Referee, MG=Magistrate Judge, PR=Probate Referee, SC=Supreme Court Justice, SJ=Senior Judge, UN=Unknown.	char(2)
Milestone_Status	Case_Header.Milestone_Sta	Defines the status of the case via the occurrence of the last milestone. (Verify)	Used as a means to track a case via the use of milestones. 23 status codes exist on ICIS in the "Milestone_Sta" table (or in the "Codes_Master" table). E.g., AP=Appealed, FP=Formal Probation, DS=Disposed, IN=Active Initiated, IW=In Work, Pn Pending Arraignment, PT=Pending Trial Hearing.	char(2)
Milestone_Status_Date	Case_Header.Milestone_Sta_Dt	The date of the last milestone status update.		date
True_Case_Indicator	Case_Header.True_Case_Ind	Flags a case with a "Y" or "N" to indicate if it is suitable to use in statistical analysis.	The flag's value and assignment is based on user-defined case subtype codes located in the SA_Defaults_Case_Sub_Tp table. (Need to determine what rule is used.) Assume that this field is needed as an administrative data element in the JDW to aid in reporting. (?)	char(1)

Basic Business Rules:

- Every case is uniquely identified using the 17-character identification number assigned.
- A case can involve multiple defendants (per ICIS) in an adult trial, and a single defendant in a juvenile trial.
- A case can involve multiple victims.
- A case can involve multiple defense attorneys and multiple prosecuting attorneys.
- A case can be defined as an adult case or a juvenile case. A case is an adult case when the defendant is tried in adult court. A case is a juvenile case when the defendant is tried in juvenile court. The age is the primary determinant, however, under certain circumstances juveniles can be tried *as an adult in adult court*.

Summary of Follow-up Activities:

- Identify: Is Case Type Group (characters 10-11 in the Case_ID) used consistently throughout the State as a higher-level means to categorize cases (i.e., is it a statewide standard) ??
- Verify: The first two characters in the six-character Case Number (characters 12-13 in the Case_ID) *continue* to be used to denote the year the case was established.
- Analyze: Analyze data to determine the most straight-forward way to derive Court_Type assignments.

- Verify: Milestone_Status is the status of the case per the *last completed* milestone.

- Identify: Is True_Case_Indicator needed in the JDW ?? If so, is this a business requirement or an administrative / reporting requirement ?? What values of Case Subtype denote a true case verses a non-true case ?? (i.e., what's the rule to determine proper assignement ??)

- Determine: What administrative data elements are needed / should be added to the "Case" table (as part of physical design) ?? ICIS / "Case_Header" currently includes (10 elements): Create_DTTM, Create_PIN, Security_Level_Cd, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_To_DTTM, Tickled_Ind, True_Case_Indicator, Archive_Dt.

- Identify / Analyze: Is there any data contained in the "Case_Header_Comments" table that is needed, referenced consistently, *and makes sense to include* in the JDW ?? This table's most relevant data will be contained in the 60-character Case_Comments field.

Assumptions, Remarks, Issues, Concerns:

- Remark: The ICIS Adult Case Management module was designed to support multiple adult defendants per case , while the Juvenile Case Management module (JCS) was designed to support only one offender per case. The Justice Data Warehouse LDM must be designed to do the same, in order to support the possibility that a case may exist in ICIS that has multiple defendants.

- Assumption: No civil cases will be included in the JDW as part of the initial (business module) implementation. Only criminal and juvenile cases will be implemented.

- Remark: A juvenile case is defined as Case_Tp="JI" (i.e., Juvenile Intake), or as Case_Tp="JV" (i.e., Juvenile) and Case_Sub_Tp="JD" (i.e., Juvenile Delinquent) T*hese codes, however, do not indicate when a Juvenile is tried as an adult, in adult court.*

- Concern: "Case" is *directly related* to the "JCS_Informal_Agreement", "JCS_Community_Service", and "JCS_Placement" tables, as opposed to being *indirectly related* via the "JCS_Incident" table. When "JCS_Incident" was subsequently added to the ICIS database, Incident_Sequence_No was not propogated into these three tables (as it was with JCS_Charge, _Adjudication, and _Disposition*). As result,* "JCS_Incident" is not related to the three JCS tables (as one might think it would be); nor did the three tables inherited Incident_Sequence_No as part of their keys (see the respective table descriptions for the three JCS tables).

- Issue: The Case_Initiated_Dt is not used consistently in ICIS today; it is often filled in with the date that the case was entered on ICIS (i.e., the "Create_DTTM"). We could elect to use the Create_DTTM and thereby ensure consistency of data; or use Case_Initiated_Dt knowing that it may be more representative of reality, but contain a fair amount inconsistencies.

- Assumption: Prayer Amount (the dollar amount initially asked for by the plaintiff in a civil trial) will not be needed as part of the first module implemented into the JDW. If civil cases become an area of interest to the users, it will be added to the appropriate table (e.g., the "Case" table) as part of that module's implementation.

- Assumption: True_Case_Indicator is needed in the JDW as a reporting aid. If this is true, the flag's value and assignment is based on user-defined case subtype codes, located in the SA_Defaults_Case_Sub_Tp table. Remove data element from JDW LDM if assumption is false.

- Remark: Total Data Elements / Admin Data Elements: ICIS 26 / 10; JDW 16 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE_EVENT	Primary Key: Case_ID,. Event_Sequence_No	"Case_Event" is a dependent entity.	"Case_Event" has a 1:1 relationship with "Case"	
Case_ID	Event_Header.Case_ID	A unique ID identifying a specific case.	The "Case_Event" table contains a collection of all legal filings and docket events associated with a case, which are acted upon by the Court. "Case_Event" is dependant on "Case" for its identity and existence. "Case" has a 1:M relationship with the "Case_Event" table. "Case_Event" has a 1:1 relationship with "Case". Case_ID is part of the primary key (*Case_ID*,. Event_Sequence _No).	char(17)
Event_Sequence_No	Event_Header.Filed_Seq	A XXXXX-generated sequence number uniquely identifying an occurrence of a particular case filing or event.	Event_Sequence_No is part of the primary key (Case_ID,. *Event_Sequence_No*).	integer(?)
Event_Date	Event_Header.Filed_DTTM	Identifies the date in which a specific case filing or event occurred within the court system.		date
Event_Type	Event_Header.Event_Tp	A high-level classification of a case filing or event; defined using one of 37 type codes.	37 type codes exist in ICIS in the "Event_Tp" table (or in the "Codes_Master" table). E.g, AF=Affidavit, AP=Appearance, CL=Claim, HR=Hearing, MI=Mittimus, MO=Motion, NO=Notice, SB=Subpoena, SU=Summons, WA=Warrant.	varchar(2)
Event_Sub_Type	Event_Header.Event_Sub_Tp	A more detailed classification of a case filing or event; defined using one of 402 sub-type codes.	402 sub-type codes exist in ICIS in the "SA_Defaults_Events_ Sub_Tp" table. E.g., AAMI=Application Alledging Mental Impairment, APMI=Appointment of Physician Mental Impairment, DHSA=Order to Assign to DHS.	varchar(4)
Event_Status	Event_Header.Event_Sta	Identifies the status of a specific filing or event as open or closed.	3 status codes exist in ICIS in the "Event_Sta" table (or in the "Codes_Master" table): C=Closed, O=Open, X=Entered in Error.	varchar(1)
Event_Status_Date	Event_Header.Event_Sta_Dt	Identifies the date in which the status of a filing or event was established or modified to its current value.		date

Basic Business Rules:

- A case is associated with one or more case filings and/or events.

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Summary of Follow-up Activities:

- Identify: How is Event_Sequence_No generated, by system or user ??
- Determine: What event types and subtypes are needed by the users and should, therefore, be part of the: prototype ?? full-scale JDW ?? All types / subtypes ?? Should the table be restricted to just those types/subtypes associated with mittimuses and warrents ??
- Determine: What administrative data elements are needed / should be added to the "Case_Event" table (as part of physical design) ?? ICIS / "Case_Event" currently includes (7 elements): Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_To_DTTM.
- Identify / Analyze: Is there any data contained in the ICIS "Events_Comments" table (Event_Comments.Event_Comments, Event_Comments.Event_ Comment_Line_Nbr) that is needed, consistently referenced, *and makes sense to include* in the JDW ??. (This table's most relevant data (if any) will be contained in the 60-character Event_Comments field.)
-

Assumptions, Remarks, Issues, Concerns:

- Remark: The Case_Events table will be made up of case filings and events that are typically considered to comprise a case "docket".
- Assumption: It is assumed that users will not have a need for Court_Official_PIN or Microfilm_Reference in the JDW.
- Remark: Total Data Elements / Admin Data Elements: ICIS 15 / 8; JDW 9 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE_JURY_TRIAL	Primary Key: Case_ID, Trial_Begin_Date	"Case_Jury_Trial" is a dependent entity.		
Case_ID	Case_Trial_Information.Case_ID	A unique ID identifying a case for which a jury trial is being / was conducted (At what point does a trial record get entered into ICIS, at the start of jury selection--with subsequent updates?? or only after it has completed?? .	[Note: The "Case_Trial_Information" table is no longer used; it has been replaced by the "Omnitec Jury Management" subsystem, a third-party application that interfaces with the ICIS Case Financial Management module. Per contract, data *will not* be sourced from this system as part of the initial, full-scale JDW implementation.] "Case_Jury_Trial" is an extension of the "Case" table; it serves to provide additional information about a case's jury, its selection and deliberation processes. "Case_Jury_Trial" is dependent on the "Case" table for its identify and existence. "Case_Jury_Trial" has a 1:1 relationship with the "Case" table. "Case" has a 1:M relationship with "Case_Jury_Trial" (If false, change key). Case_ID is part of the primary key (*Case_ID*, Trial_Begin_Date)	char(17)
Trial_Begin_Date	Case_Trial_Information.Trial_Beg_DTTM	Identifies the date in which a trial formally began, per the start of [XXXXX activity].		date
Trial_End_Date	Case_Trial_Information.Trial_End_DTTM	Identifies the date in which a trial formally ends, per the completion of [XXXXX activity].		date
Jury_Pool_ID	Case_Trial_Information. Jury_Pool_ID	Identifies the pool of perspective jurors from which a case's jury is/was selected.		integer(4)
Jury_Selection_Begin_Date	Case_Trial_Information.Trial_Voir_Dire_Beg_DTTM	Identifies the date in which the jury selection process began.		date
Jury_Selection_End_Date	Case_Trial_Information.Trial_Voir_Dire_End_DTTM	Identifies the date in which the jury selection process ended.		date
Jury_Empaneled_Date	Case_Trial_Information.Trial_Jury_Empaneled_DTTM	Defines the date in which the jury was [scheduled to ????]		date
No_Jurors_on_Panel	Case_Trial_Information.Trial_Jurors_on_Panel _Nbr	Identifies the total number of jurors comprising the jury		integer(4)
No_Alternate_Jurors	Case_Trial_Information.Trial_Jurors_Alter_No	Identifies the total number of jurors designated as alternate jurors.		integer(4)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
No_Jurors_Challenged	Case_Trial_Information.Trial_Jurors_Challenged_Nbr	Identifies the total number of potential jurors who were [challenged??] by the attorneys for the defense and/or prosecution, in effort to [dissuade the judge to] remove the individual from jury consideration.		integer(4)
No_Jurors_Struck	Case_Trial_Information.Trial_Jurors_Struck_Nbr	Identifies the total number of potential jurors who were [struck i.e., eliminated ??] by the judge for jury consideration.		integer(4)
Jury_Deliberation_Begin_Date	Case_Trial_Information.Trial_Deliberations_Beg_DTTM	Identifies the time in which the jury began deliberating the verdict of a defendant's case.		date
Jury_Deliberation_End_Date	Case_Trial_Information.Trial_Deliberations_End_DTTM	Identifies the time in which the jury completed deliberating the verdict of a defendant's case.		date

Note: **The "Case_Trial_Information" table is no longer used;** it has been replaced by the "Omnitec Jury Management" subsystem, a third-party application that interfaces with the ICIS Case Financial Management module. **Per the Contract / Scope of Work documents, data *will not* be sourced from this system as part of the initial, full-scale JDW implementation.]**

Basic Business Rules:

- A case may result in one or more jury trials. Multiple trials could occur if a prior trial resulted in a mistrial, or … [for other reasons, if any ??].
-

Summary of Follow-up Activities:

- Clarification: Several data element definitions from the ICIS "Case_Trial_Information" table would have to be clarified or validated.
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Assumptions, Remarks, Issues, Concerns:

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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE_CLOSED	Primary Key: Case_ID, Disposition_Status, Disposition_Status_Date	"Case_Closed" is a dependent entity.	"Case_Closed" has a 1:1 relationship with the "Case" table.	
Case_ID	Case_Closed.Case_ID	A unique ID identifying an individual case as being closed, or closed and reopened.	"Case_Closed" is an extension of the "Case" table; it serves to provide additional information about the closing and possible reopening(s) of a case. The existence of a record in the "Case_Closed" table indicates that a specific case has been closed; the Disposition_Status is always set to "Closed". This record maybe subsequently updated to indicate that the case has been reopened, via entering a date in the Case_Reopened_Date field. A case can be reopened and closed multiple times: - Each time a case is reopened, a new record is entered into the "Case_Closed" table (in addition to populating the Case_ Reopened_Date field in the prior record), and its Disposition_ Status and associated date are set to reflect the current case status and date of the status change. - Each time a case is closed, its Disposition_Status is set to "Closed", and its associated date modified to the date the case was closed. "Case_Closed" is dependent on the "Case" table for its identify and existence. "Case_Closed" has a 1:1 relationship with the "Case" table. "Case" has a 1:M relationship with "Case_Closed". Case_ID is part of the primary key (*Case_ID*, Disposition_Status Disposition_Status_Date)	char(17)
Disposition_Status	Case_Closed.Disposition_Sta	The *status* of the verdict / disposition (previously rendered) at the close of the case.	Disposition_Status is part of the primary key (Case_ID, *Disposition_Status*, Disposition_Status_Date) Disposition_Status was made part of the primary key to identify the times when a case has been closed and reopened multiple times during its existence. 22 status codes exist in ICIS in the "Disposition_Sta" table (or in the "Codes_Master" table). E.g., ALF=Altered Plea, CLOS=Closed, CVSM=Converted to Simple Misdemeanor, DISM=Dismissed, IFAA=Informal Adjustment Agreement Filed, WAVR=Waiver to Criminal Court.	char(4) [although one status code has only three chars, therefore may make varchar(4)]
Disposition_Status_Date	Case_Closed.Disposition_Sta_Dt	The date in which the disposition *status* of a case was closed or changed.	Disposition_Status_Date is part of the primary key (Case_ID, Disposition_Status, *Disposition_Status_Date*) Disposition_Status_Date was made part of the primary key to identify the times when a case has been closed and reopened multiple times during its existence.	date
Judge_ID	Case_Closed.Disposing_Judge_PIN	A unique ID identifying the judge who was	Judge_ID is a synonym for Person_ID, as found in the	char(9)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
		involved with the closing or status change of a case.	"Person" and "Person_Judge" tables. Its value should be validated using Person_ID in these tables. [Note: The ICIS table "Case_Closing" contains both Judge_PIN and Judge_Type. Judge_Type is not necessary since when the judge's pin is referenced from the "People_Judge" table for name, etc, Type can also be determined / obtained.]	
Case_Reopened_Date	Case_Closed.Case_Reopened_Dt	The date a case is reopened.		date

Basic Business Rules:

- A case can be closed and re-opened multiple times.

Summary of Follow-up Activities:

- Determine: What administrative data elements are needed / should be added to the "Case_Closed" table (as part of physical design) ?? The ICIS "Case_Closing" table currently includes (7 elements): Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, Sent_To_DHS, Sent_To_DTTM, and Microfilm_Ref.
-

Assumptions, Remarks, Issues, Concerns:

- Assumption: It is assumed that the data element Microfilm_Reference is not needed by users in the JDW.
- Remark: Total Data Elements / Admin Data Elements: ICIS 13 / 7; JDW 7 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CASE_RELATED	Primary Key: Case_ID, Related_Case_ID	"Penalty" is a dependent entity.	"Case_Related" has a 1:1 relationship with "Case"	
Case_ID	Case_Case_Index.Case_ID	A unique ID identifying a case for which there is one or more other cases related to it.	"Case_Related" is an extension of the "Case" table; it serves to identify those case(s) which are in some way related to a specific case in question. "Case_Related" is dependent on the "Case" table for its identify and existence. "Case_Related" has a 1:1 relationship with the "Case" table; "Case" has a 1:M relationship with the "Case_Related" table. Case_ID is part of the primary key (*Case_ID*, Related_Case_ID)	char(17)
Related_Case_ID	Case_Case_Index.Related_Case_ID	A unique ID identifying a case which is related to a specifc case in question.	Rerlated_Case_ID is part of the primary key (Case_ID, *Related_ Case_ID*) Related_Case_ID is a synonym for Case_ID in the "Case" table.	char(17)
Case_Relationship	Case_Case_Index.Case_Relationship_Tp	Identifies the type of relationship that a related case has to a case in question.	12 relationship types exist in ICIS in the "Case_Relationship_ Tp" table (or in the "Codes_Master" table): APFR=Appealed From, APPL=Appealed, APTO=Appeal To, JIDJ=JCS-Related Cases – Children, JIIN=Juvenile Intake to Court, JIJV=JCS to Juvenile to Court, JISJ=JCS-Related Cases – Same Child, SAIN=Same Incident, SPFR=Split From, TRAN=Transferred, TRSM=Traffic Converted to Simple Misdemeanor.	char(4)

Basic Business Rules:

- A case can be associated with one or more related cases, which are being tried independantly of the case in question.

Summary of Follow-up Activities:

- Determine: What administrative data elements are needed / should be added to the "Case_Related" table (as part of physical design) ?? The ICIS "Case_Case_Index" table currently includes (5 data elements): Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, and Sent_To_DTTM.
-

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 13 / 7; JDW 7 / 2 (est)
-

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
CHARGE_DISPOSITION	Primary Key: Case_ID, Defendant_ID, Charge_Count	"Charge" is a dependent entity.	"Charge_Disposition" has a 1:1 relationship with "Case". "Charge_Disposition" has a 1:M relationship with "Penalty"	
Case_ID	Charge.Case_ID - and - Adjudicatin.Case_ID	Unique ID identifying an individual case in the court system.	"Charge_Disposition" stores adult charge and disposition data in one table (this is possible since the ICIS "Charge" and "Adjudication" tables are in a 1:1 relationship and have the same key). The "Charge_Disposition" table is dependent on the "Case" table for its identity and existance. The LDM will represent charge / disposition data for Adults and Juveniles in *separate 'Charge-Disposition' tables.* Multiple charges per individual, per case can exist: - "Case" has a 1:M relationship with "Charge_Disposition". - "Charge_Disposition" has a 1:1 relationship with "Case". - "Charge_Disposition" has a 1:1 relationship with "Penalty". Case_ID is part of the primary key (*Case_ID*, Defendant_ID, Charge_Count). Case_ID is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	char(17)
Defendant_ID	Charge.Defendant_PIN - and - Adjudicatin.Defendant_PIN	A unique ID identifying an individual defendant who has been charged with one or more crimes in a case.	"Defendant_ID is a synonym for Person_ID, specifically for an individual who is a defendant in a case. Defendant_ID should be validated against People_ID in the "People_Header" table and People_Role_Cd in the "Case_People_Index" table. Multiple charges per individual adult, per case can exist. Defendant_ID is part of the primary key (Case_ID, *Defendant_ID*, Charge _Code, Charge_Count). Defendant_ID is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	char(9)
Charge_Count	Charge.Charge_Cnt - and - Adjudicatin.Charge_Cnt	Unique ID identifying the specific count of an individual charge. E.g.,: If an individual were charged with *six counts* of Bookmaking (#3901), each count would be represented individually as a separate occurrence or record in the "Charge_ Disposition" table. - Charge 3901 / Count 1 - Charge 3901 / Count 2 - etc.	Charge_Count is an ICIS-generated number within the adult Case Management module (it is, however, a user-assigned number within the juvenile Case Management module). Multiple counts of a single charge can exist against a single adult defendant per case. Charge_Count is used as a means to *sequence all charges* brought against an *adult* defendant within the adult Case Management module (however, it is used as a means to *count multiple occurrences of the same charge*, within the juvenile Case Management module). Charge_Count is part of the primary key (Case_ID, Defendant_ID, *Charge_Count*).	integer(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			Charge_Count is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	
Charge_Class	Charge.Charge_Class_Cd - and - Adjudicatin.Charge_Class_Cd	A classification of the charge for which an adult defendant has been accused. It serves as the highest level by which a charge can be defined.	Class values for adult charges should be validated against those in the reference table "SA_Charge_ Allegation_Table" under Charge_Cd_Class. 15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "Codes_Master" table). E.g., FELA=Class A Felony, FELB=Class B Felony, FELC=Class C Felony, FELD=Class D Felony. Charge_Class is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	char(4)
Charge_Code	Charge.Charge_Cd - and - Adjudication.Charge_Code	The Iowa State crime code for which the defendant is/was charged.	Code values for adult charges should be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd. NCIC codes are national crime codes and are also a part of Iowa's crime codes. "Charge_Cd_NCIC_Cd" is one data element defined within the "SA_Charge_Allegation_ Table"; these codes are also defined in the the "Charge_Cd_NCIC_Cd" and "Codes_Master" tables (~ 445 codes identified). Multiple charges per individual per case can exist: - "Case" has a 1:M relationship with "Charge_Disposition". - "Charge_Disposition" has a 1:1 relationship with "Case". - "Charge_Disposition" has a 1:1 relationship with "Penalty". Charge_Code is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	varchar(20)
Statute_Year_of_Charge	Charge.Charge_Cd_Yr - and - Adjudicatin.Charge_Cd_Yr	The year in which a charge was established within the Iowa State statute.	Statute year for adult charges can be validated against those in the reference table "SA_Charge_Allegation_ Table" under Charge_Cd_Yr. Statute_Year_of_Charge is obtained from both the ICIS "Charge" and "Adjudication" tables (their values must match).	number(4)
Offense_Date	Charge.Offense_Date	Date the alleged offense was committed.		date
Arrest_Date	Charge.Arrest_Dt	Date the defendant was arrested.		date

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Charge_Date	Charge.Charge_Dt	Date the defendant was charged.	Determine: If Charge_Dt is the date in which the charge filing was received by the clerk of court, then is Charge_Eff_Dt the date the defendant was actually charged ??	date
Original_Plea	Charge.Origninal_Plea_Cd	Initial or original plea entered by defendant (e.g., guilty, not guilty)	3 plea codes exist on ICIS in the "Plea_Cd" table (or in the "Codes_Master" table): G=Guilty, N=Not Guilty, X=No Plea Entered.	char(1)
Original_Plea_Date	Charge.Origninal_Plea_Cd_Dt	Date in which the original pleas was entered by a defendant.		date
Current_Plea	Charge.Current_Plea_Cd	Current plea entered by defendant (e.g., guilty, not guilty)	3 plea codes exist on ICIS in the "Plea_Cd" table (or in the "Codes_Master" table): G=Guilty, N=Not Guilty, X=No Plea Entered.	char(2)
Current_Plea_Date	Charge.Current_Plea_Cd_Dt	Date in which the current plea was entered by a defendant.		date
Judge_ID	Charge.Judge_PIN - and - Adjudication.Judge_PIN	A unique ID identifying the judge presiding over the case and/or disposition of the charge.	Generally one judge presides over a case. However, since a judge can be changed / removed at any time during a case (or if a case is reopened against an offender, where a different judge presides over the same charge) one judge (Judge_ID) is associated with the *disposition* of each charge. Judge_ID is obtained from both the ICIS "Charge" and "Adjudication" tables. Their values should match; if they differ, use the ID from the "Adjudication" table (Verify if OK with Users). Judge_ID is a synonym for Person_ID, as found in both the "Person" and "Person_Judge" tables. Its value should be validated using Person_ID in these tables.	char(9)
Disposition	Adjudication.Adj_Tp	The type of disposition rendered by the judge, jury or whomever (E.g., guilty, not guilty, dismissed, etc.)	17 type codes exist on ICIS in the "Adj_Tp" table (or in the "Codes_Master" table). E.g., AC=Acquitted, DS=Dismissed, GU=Guilty, NG=Not Guilty, EX=Expunged, CD=Consent Decree.	char(4)
Disposition_Date	Adjudication.Entered_DTTM	Date defendant received the disposition for the charge and count filed against him/her.		date
Convicted_Charge_Class	Derived via mapping the corresponding Convicted_Charge_Code into the "SA_Charge_ Allegation_Table" and selecting the corresponding Charge_Class_Cd.	A classification of the charge for which an adult defendant has been convicted. It serves as the highest level by which a convicting charge can be defined.	15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "codes_Master" table). E.g., FELA = Class A Felony, FELB = Class B Felony, FELC = Class C, FELD = Class D Felony. [Note: This data element does not exist today in the ICIS "Adjudication" table. It is assumed that this would be of	char(4)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			value to the users.]	
Convicted_Charge_Code	Adjudication.Convicting_Chg	Criminal charge code in which the offender was convicted.	Multiple convicting charges per adult, per case can be handed down. Code values for adult convicted charges should be validated against those in the "SA_Charge_Allegation_Table" reference table.	varchar(20)
Statute_Year_of_Convicted_Charge	Adjudication.Convicting_Chg_Yr	The year in which the convicted charge was established within the Iowa State statute.		number(4)

Basic Business Rules:

- A charge is related to one and only one case.
- A charge is associated with one and only one defendant.
- Each charge is defined by a crime code (i.e., charge_code).
- A charge will result in one and only one disposition.
- A charge may result in one or more penalties.

Summary of Follow-up Activities:

- Determine: On ICIS, is Charge.Charge_Dt the date the defendant was actually charged with a crime, or the date the clerk of court filed the charge on ICIS ??
- Determine: On ICIS, is Charge.Charge_Eff_Dt the date the defendant was actually charged with the crime ?? If not, what is it ??
- Verify: If the values for Judge_ID in the ICIS "Charge" and "Adjudication" tables do not match, verify with users that the ID from the "Adjudication" table is most relevant and should be used (since it represents the judge who was present [or responsible for] the verdict when it was handed down).
- Verify: Convicted_Charge_Class has been added as part of the JDW logical data model. It is assumed that this data element, which is not in the ICIS "Adjudication" table, will be of value to JDW users.
- Assess: Is there any data contained in the Charge_Comment field that is needed, consistently referenced, and *makes snese to include* in the JDW "Charge_Disposition" table ?? This field is 140 characters in length.
- Determine: What administrative data elements are needed / should be added to the "Charge_Disposition" table (as part of physical design) ?? The ICIS "Charge" table currently includes (5 data elements): Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, and Sent_To_DTTM (no Sent_to_DHS element present).

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 22 / 5; JDW 21 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_CHARGE_DISPOSITION	Primary Key: Case_ID, Incident_Seq_No, Charge_Code, Charge_Count	"JCS_Charge_Disposition" is a dependent entity.	"JCS_Charge_Disposition" has a 1:1 relationship with "JCS_ Incident". "JCS_Charge_Disposition" has a 1:M relationships with "JCS Penalty", and "JCS_Intake_Decision".	
Case_ID	JCS_Charge.Case_ID - and - JCS_Adjudicatin.Case_ID	Unique ID identifying an individual case in the court system.	"JCS_Charge_Disposition" stores juvenile charge and disposition data in one table (this is possible since the ICIS "JCS_Charge" and "JCS_Adjudication" tables are in a 1:1 relationship and have the same key). The "JCS_Charge_Disposition" table is dependent on "Case" for its identity and existence. This LDM will contain charge / disposition data for Adults and Juveniles in *separate* 'Charge-Disposition' tables. Multiple charges per individual juvenile, per case can exist. - "JCS_Charge_Disposition" has a 1:1 relationship w/ "JCS_ Incident". - "JCS_Incident" has a 1:M relationship w/ "JCS_Charge_ Disposition". - "JCS_Charge_Disposition" has a 1:M relationship with "JCS_Penalty" Case_ID is part of the primary key (*Case_ID*, Incident_Sequence_No, Charge_Code, Charge_Count). Case_ID is obtained from both the ICIS "JCS_Charge" and "JCS_Adjudication" tables (their values must match).	char(17)
Incident_Sequence_No	JCS_Charge.Incident_Seq - and - JCS_Adjudication.Incident_Seq	A system-generated sequence number uniquely identifying an occurrence of a particular offense committed by a juvenile, as defined by or within a specific case.	Incident_Sequence_No is part of the primary key (Case_ID, *Incident_Sequence_No*, Charge_Code, Charge_Count). Incident_Sequence_No is obtained from both the ICIS "JCS_Charge" and "JCS_Adjudication" tables (their values must match).	integer(3)
Charge_Code	JCS_Charge.Charge_Cd - and - JCS_Adjudication.Charge_Cd	The Iowa State crime code for which the juvenile defendant was charged.	Charge_Code is part of the primary key (Case_ID, Incident_Sequence_No, *Charge_Code*, Charge_Count). Charge_Code is part of the primary key in the Juvenile Case Management module since Charge_Count is used only to uniquely identify *multiple* occurrences of the same charge (as opposed to uniquely identifying *every* charge, as in the Adult Case Management module). Charge_Code is obtained from both the ICIS "JCS_Charge" and "JCS_Adjudication" tables (their values must match). Code values for juvenile charges should be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd. NCIC codes are national crime codes and are also a part of Iowa's crime codes. "Charge_Cd_NCIC_Cd" is one data element defined within the "SA_Charge_Allegation_ Table"; these codes are also defined in the the	varchar(20)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			"Charge_Cd_NCIC_Cd" and "Codes_Master" tables (~ 445 codes identified). Multiple charges per individual juvenile, per case can exist. - "JCS_Charge_Disposition" has a 1:1 relationship w/ "JCS_ Incident". - "JCS_Incident" has a 1:M relationship w/ "JCS_Charge_ Disposition". - "JCS_Charge_Disposition" has a 1:M relationship with "JCS_Penalty"	
Charge_Count	JCS_Charge.Charge_Cnt - and - JCS_Adjudication.Charge_Cnt	Unique ID identifying the specific count of an individual charge. E.g.,: If an individual were charged with *six counts* of Bookmaking (#3901), each count would be represented individually as a separate occurrence or record in the "JCS_Charge_ Disposition" table. - Charge 3901 / Count 1 - Charge 3901 / Count 2 - etc.	Charge_Count is used as a means to *count multiple occurrences of the same charge*, brought against a juvenile defendant within the Juvenile Case Management module (however, it is used as a means to *sequence all charges* brought against an *adult* defendant within the Adult Case Management module). I.e., multiple counts of a single charge can exist against a single juvenile defendant per case. Charge_Count is a user assigned number within the juvenile Case Management module (however, it is an ICIS-generated number within the adult Case Management module). Charge_Count is part of the primary key (Case_ID, Defendant_ID, Charge_Code, *Charge_Count*). Incident_Sequence_No, *Charge _Code*, Charge_Count). Charge_Count is obtained from both the ICIS "JCS_Charge" and "JCS_Adjudication" tables (their values must match).	integer(3)
Charge_Class	Charge_Class for Juveniles will be derived from the "SA_Charge_Allegation_Table" via the value of Charge_Cd in the"JCS_Charge" table. - or - via the value of Charge_Cd in the "JCS_ Adjudication" table	A classification of the charge for which a juvenile defendant has been accused. It serves as the highest level by which a charge can be defined.	15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "Codes_Master" table). E.g., FELA=Class A Felony, FELB=Class B Felony, FELC=Class C Felony, FELD=Class D Felony.	char(4)
Statute_Year_of_Charge	JCS_Charge.Charge_Cd_Yr - and - JCS_Adjudication.Charge_Cd_Yr	The year in which a charge was established within the Iowa State statute.	Statute year for juvenile charges can be validated against those in the reference table "SA_Charge_Allegation_ Table" under Charge_Cd_Yr. Statute_Year_of_Charge is obtained from both the ICIS "JCS_Charge" and "JCS_Adjudication" tables.	number(4)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Offense_Date	JCS_Charge.Offense_Date	Date the alleged offense was committed.	The LDM will contain data for both Adults and Juveniles; therefore this table must also include charge data (Offense_ Date) from the Juvenile Court System database area. [Arrest Date IS NOT available in the Juvenile Case Management module because juveniles are not "arrested" per se.]	date
Original_Plea	JCS_Charge.Origninal_Plea_Cd	Initial or original plea entered by a juvenile defendant (e.g., guilty, not guilty)	3 plea codes exist on ICIS in the "Plea_Cd" table (or in the "Codes_Master" table): G=Guilty, N=Not Guilty, X=No Plea Entered.	char(1)
Original_Plea_Date	JCS_Charge. Origninal_Plea_Cd_Dt	Date in which the initial or original pleas was entered by a juvenile defendant.		date
Current_Plea	JCS_Charge. Current_Plea_Cd	Current plea entered by a juvenile defendant (e.g., guilty, not guilty)	3 plea codes exist on ICIS in the "Plea_Cd" table (or in the "Codes_Master" table): G=Guilty, N=Not Guilty, X=No Plea Entered.	char(2)
Current_Plea_Date	JCS_Charge.Current_Plea_Cd_Dt	Date in which the current plea was entered by a juvenile defendant.		date
Judge_ID	JCS_Adjudication.Judge_PIN	A unique ID identifying the judge presiding over the disposition of a charge.	Judge_ID is *recorded* for the *disposition* of a JCS charge (i.e., is in the "JCS_Adjudication" table); Judge_ID is *not recorded* when a juvenile is arreigned and charged in juvenile court (i.e., is *not* in the "JCS_Charge" table) Judge_ID is a synonym for Person_ID, as found in both the "Person" and "Person_Judge" tables. Judge_ID should be validated against People_ID in the "People_Header" table and People_Role_Cd in the "Case_People_Index" table.	char(9)
Disposition	JCS_Adjudication. Adj_Tp	The type of disposition rendered by the judge, jury or whomever (E.g., guilty, not guilty, dismissed, etc.)	17 type codes exist on ICIS in the "Adj_Tp" table (or in the "Codes_Master" table). E.g., AC=Acquitted, DS=Dismissed, GU=Guilty, NG=Not Guilty, EX=Expunged, CD=Consent Decree.	char(4)
Disposition_Date	JCS_Adjudication.Entered_DTTM	Date defendant received the disposition for the charge and count filed against him/her.		date
Convicted_Charge_Class	Derived via mapping the corresponding Convicted_Charge_Code into the "SA_Charge_ Allegation_Table" and selecting the corresponding Charge_Class_Cd.	A classification of the charge for which a juvenile defendant has been convicted. It serves as the highest level by which a convicting charge can be defined.	15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "codes_Master" table). E.g., FELA = Class A Felony, FELB = Class B Felony, FELC = Class C, FELD = Class D Felony. - Note: An assessment must be conducted to determine	char(4)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			which class codes are used today for juvenile cases. [Note: This data element does not exist today in the ICIS "JCS_Adjudication" table. It is assumed that this would be of value to the users.]	
Convicted_Charge_Code	JCS_Adjudication.Convicting_Chg	Criminal code in which the offender was convicted.	Multiple convicted charges per individual juvenile, per case can be handed down. Code values for juvenile convicted charges should be validated against those in the "SA_Charge_Allegation_Table" reference table.	varchar(20)
Statute_Year_of_Convicted_Charge	JCS_Adjudication.Convicting_Chg_Yr	The year in which the conviction charge was established within the Iowa State statute.		number(4)

Basic Business Rules:

- A JCS charge is related to one and only one JCS case.
- A JCS charge is associated with one and only one JCS defendant.
- Each JCS charge is defined by a crime code (i.e., charge_code)
- A JCS charge will result in one and only one disposition.
- A JCS charge may result in one or more penalties.

Summary of Follow-up Activities:

- Verify: Verify that Arrest Date is not found in the Juvenile Case Management module because juveniles are not "arrested" per se (?).
- Verify: Convicted_Charge_Class has been added as part of the JDW logical data model. It is assumed that this data element, which is not found in the ICIS "JCS_Adjudication" table, will be of value to JDW users.
- Determine: What administrative data elements are needed / should be added to the "JCS_Charge_Disposition" table (as part of physical design) ?? Both the ICIS "JCS_Charge" and "JCS_Adjudication"tables currently include (4 data elements): Create_DTTM, Create_PIN, Sys_DTTM, and Sys_PIN.

Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Charge_Disposition" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS "JCS_Charge" 16 / 4; "JCS_Adjudication" 15 / 4; JDW 21 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PENALTY	Primary Key: Case_ID, Defendant_ID, Charge_Count, Penalty_Type.	"Penalty" is a dependent entity.	"Penalty" has a 1:1 relationship with "Charge_Disposition". "Penalty" may have a 1:1 relationship with "Penalty_Dollars" and/or with "Penalty_Time"..	
Case_ID	Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	"Penalty" is dependant on "Charge_Disposition" for its identity and existence. The LDM will represent basic penalty data for adults and juvenile defendants in separate 'Penalty' tables ("Penalty" vs "JCS_Penalty"). Multiple penalties per charge, per adult defendant can exist: - "Charge_Disposition" may have a 1:M relationship with "Penalty". - "Penalty" has a 1:1 relationship with "Charge_Disposition". - "Penalty" may have a 1:1 relationship with "Penalty_Dollars" and/or with "Penalty_Time". Case_ID is part of the primary key *(Case_ID*, Defendant_ID, Charge_ Count, Penalty_Type)	char(17)
Defendant_ID	Disposition.Defendant_PIN	A unique ID identifying an adult defendant who has been convicted of one or more charges in a case, or who has been found 'not guilty' but responsible for fee payment(s).	Defendant_ID is a synonym for Person_ID, specifically for an individual who is (a convicted) defendant in a case. Defendant_ID should be validated against People_ID in the "People_Header" table and People_Role_Cd in the "Case_People_Index" table. Multiple penalties can exist per convicted charge per adult defendant in a case. Defendant_ID" is part of the primary key (Case_ID, *Defendant_ID*, Charge_Count, Penalty_Type).	char(9)
Charge_Count	Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is an ICIS-generated number within the adult Case Management module (it is, however, a user-assigned number within the juvenile Case Management module). Multiple counts of a single convicted charge can exist against an adult defendant. Charge_Count is part of the primary key (Case_ID, Defendant_ID, *Charge_Count*, Penalty_Type)	integer(3)
Penalty_Type	Disposition.Sentence_Tp	Type of penalty that the convicted or responsible adult defendant has been assigned (E.g., jail, prison, fine, community service, etc.)	Penalty_Type will be the means by which a penalty will be classified as a monetary-based penalty or as a time-based penalty. All relevant data regarding a monetary-based penalty will be stored in the "Penalty_Dollars" table, and all relevant data regarding a time-based penalty will be stored in the "Penalty_ Time" table. - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute monetary-based	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			penalties, and those that constitute time-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which type codes are used exclusively today for juvenile cases.	
Penalty_Charge_Class	Derived via mapping the corresponding Penalty_Charge_Code into the "SA_Charge_ Allegation_Table" and selecting the corresponding Charge_Class_Cd.	A classification of the penalty charge for which an adult defendant has been penalized or sentenced. It serves as the highest level by which a penalty charge can be defined.	An offender could be sentenced for a crime that is different than that which he/she was convicted. (ie., Judge threw out the original conviction and defined his/her own (e.g., Au Par trial)). 15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "codes_Master" table). E.g., FELA = Class A Felony, FELB = Class B Felony, FELC = Class C, FELD = Class D Felony. [Note: This data element does not exist today in the ICIS "Disposition" table. It is assumed that this would be valuable to the users.]	char(4)
Penalty_Charge_Code	Disposition.Disposition_Chg	The crime for which the offender has been sentenced.	An offender could be sentenced for a crime that is different than that which he/she was convicted. (ie., Judge threw out the original conviction and defined his/her own (e.g., Au Par trial)). Code values for adult penalty charges should be validated against those values in the "SA_Charge_Allegation_Table" reference table.	varchar(20)
Statute_Year_of_Penalty_ Charge	Disposition.Disposition_Chg_Yr	The year in which a charge was established within the Iowa State statute.	Statute year for adult charges can be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd_Yr.	number(4)
Judge_ID	Disposition.Judge_PIN	A unique ID identifying the judge who determined and imposed the penalty(s) and/or sentencing on the convicted defendant.	Generally one judge presides over a case. However, since a judge can be changed / removed at any time during a case (or if a case is reopened against an offender, where a different judge presides over the same charge) one judge (Judge_ID) is associated with the *penalty* for each convicted charge. Judge_ID is a synonym for Person_ID, as found in both the "Person" and "Person_Judge" tables. Judge_ID should be validated against People_ID in the	char(9)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			"People_Header" table and People_Role_Cd in the "Case_People_Index" table.	
Penalty_Receipt_Date	Disposition.Entered_DTTM	The date a convicted defendant appeared before the judge to receive penalty(s) and/or sentencing.		date
Penalty_Status	??? unknown	The status of a penalty or sentencing imposed on a convicted defendant (E..g., imposed, deferred, suspended, etc.).	Determine: Does such a data element / definition exist in ICIS ?? May be embedded in Sentence_Tp / description.	??
Penalty_Condition	??? unknown	The condition which a convicted adult must successfully meet in order that the penalty status defined remain valid (E.g., probation, resident facility, restitution, community service, etc.)	Determine: Does such a data element / definition exist in ICIS ?? May be embedded in Sentence_Tp / description	??
Penalty_Review_Date	Disposition.Review_Dt	The date in which a convicted defendant's penalty(s) are reviewed by the judge to determine ... ????		date

Basic Business Rules:

- Each penalty relates to a single charge and case.
- Multiple penalties may relate to a single charge and case.
- A penalty is defined as either a time-based assessment or a monetary-based assessment.

Summary of Follow-up Activities:

- Determine: An assessment must be conducted to determine which ICIS Sentence_Tp values constitute monetary-based penalties, and those that constitute time-based penalties
- Determine: An assessment must be conducted to determine which type codes are used exclusively today for juvenile cases.
- Verify: Penalty_Charge_Class has been added as part of the JDW "Penalty" table. It is assumed that this data element, which is not found in the ICIS "Dispositin" table, will be of value to JDW users.
- Determine: Does an ICIS data element exist which defines the status of a penalty or sentencing imposed on a convicted defendant (e.g., imposed, deferred, suspended, etc.) ?? Penalty_Status was added to the JDW "Penalty" table for this purpose.

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

- Determine: Does an ICIS data element exist that defines the condition which a convicted adult must successfully meet in order that the penalty status defined remains valid (e.g., probation, restitution, community service, etc.) ?? Penalty_Condition was added to the JDW "Penalty" table for this purpose.

- Define: What does Review_Dt in the ICIS "Disposition" table mean ?? The date in which a convicted defendant's penalty(s) are reviewed by the judge to determine .... [what ??].

- Define: What do the following ICIS data elements mean and are they relevant / needed in the JDW "Penalty" (or other) table ??
  - Disp_Attny_Ind
  - Disp_DDS_Ind
  - Disp_Drugs_Ind (Assume it indicates that drugs were involved, but why part of ICIS "Disposition" ?? Wouldn't it be defined in "Charge" table?)
  - Disp_Extradition_Ind (Assume it indicates that defendant was extradited, but why part of ICIS "Disposition" ?? Wouldn't it be defined in "Charge" table ??)

- Determine: Are the following ICIS data elements needed by users, and should they be included in the JDW "Penalty" table, or in the "Penalty_Dollars" or "Penalty_Time" table ??
  - Disp_License_Rev (to indicate that a defendant's license was revoked)
  - Disp_Restitution (to indicate that a defendant was ordered to pay restitution. Currently in the "Penalty_Dollars" table.)

- Assess: Is there any data contained in the ICIS Disp_Comment field ("Disposition" table) that is needed, consistently referenced, and *makes sense to include* in the JDW "Penalty" table ?? This field is 60 characters in length.

- Determine: What administrative data elements are needed / should be added to the "Penalty" table (as part of physical design) ?? The ICIS "Dispostion"table currently includes (5 data elements): Create_DTTM, Create_PIN, Sys_DTTM, Sys_PIN, and Sent_to_DTTM.

Assumptions, Remarks, Issues, Concerns:

- Remark: Total Data Elements / Admin Data Elements: ICIS 32 / 5; JDW 14+ / 2 (est)

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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_PENALTY	Primary Key: Case_ID, Incident_Seq_No, Charge_Code, Charge_Count, Penalty_Type.	"JCS_Penalty" is a dependent entity.	"JCS_Penalty" has a 1:1 rel'shp w/ "JCS_Charge_Disposition". "JCS_Penalty" may have a 1:1 rel'shp w/"JCS_Penalty_ Dollars" and/or with "JCS_Penalty_Time"..	
Case_ID	JCS_Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	"JCS_Penalty" is dependant on "JCS_Charge_Disposition" for its identity and existence. The LDM will represent basic penalty data for adults and juvenile defendants in separate 'Penalty' tables ("Penalty" vs "JCS_Penalty"). Multiple penalties per charge, per juvenile defendant can exist: - "JCS_Charge_Disposition" may have a 1:M relationship with "JCS_Penalty". - "JCS_Penalty" has a 1:1 relationship with "JCS_Charge_ Disposition". - "JCS_Penalty" may have a 1:1 relationship with "JCS_ Penalty_Dollars" and/or with "JCS_Penalty_Time". Case_ID is part of the primary key *(Case_ID*, Defendant_ID, Charge_ Count, Penalty_Type)	char(17)
Incident_Sequence_No	JCS_Disposition.Incident_Seq	A unique system-generated ID identifying an occurrence of a particular offense committed by a juvenile, as defined by or within a specific case.	Incident_Sequence_No is part of the primary key (Case_ID, *Incident_Sequence_No*, Charge_Code, Charge_Count, Penalty_Type).	integer
Charge_Code	JCS_Disposition.Charge_Cd	The Iowa State crime code for which the juvenile defendant was charged.	Charge_Code is part of the primary key (Case_ID, Incident_ Sequence_No, *Charge_Code*, Charge_Count, Penalty_Type) Code values for juvenile charges should be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd. NCIC codes are national crime codes and are also a part of Iowa's crime codes. "Charge_Cd_NCIC_Cd" is one data element defined within the "SA_Charge_Allegation_ Table"; these codes are also defined in the "Charge_Cd_NCIC_Cd" and "Codes_Master" tables (~ 445 codes identified).	varchar(20)
Charge_Count	JCS_Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is part of the primary key (Case_ID, Incident_ Sequence_No, Charge_Code, *Charge_Count*, Penalty_Type) Charge_Count is a user-assigned number within the juvenile Case Management module (it is, however, an ICIS-generated number within the adult Case Management module). Multiple counts of a single convicted charge can exist against an juvenile defendant.	integer
Penalty_Type	JCS_Disposition.Sentence_Tp	Type of penalty that the convicted or	Penalty_Type will be the means by which a penalty will be	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
		responsible juvenile defendant has been assigned (E.g., jail, prison, fine, community service, restitution, etc.)	classified as a monetary-based penalty or as a time-based penalty. All relevant data regarding a monetary-based penalty will be stored in the "JCS_Penalty_Dollars" table, and all relevant data regarding a time-based penalty will be stored in the "JCS_ Penalty_Time" table. - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute monetary-based penalties, and those that constitute time-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which type codes are used exclusively today for adult cases.	
Penalty_Charge_Class	Derived via mapping the corresponding Penalty_Charge_Code into the "SA_Charge_ Allegation_Table" and selecting the corresponding Charge_Class_Cd.	A classification of the penalty charge for which a juvenile defendant has been penalized or sentenced. It serves as the highest level by which a penalty charge can be defined.	An offender could be sentenced for a crime that is different than that which he/she was convicted. (ie., Judge threw out the original conviction and defined his/her own (e.g., Au Par trial)). 15 class codes exist on ICIS in the "Charge_Class_Cd" table (or in the "codes_Master" table). E.g., FELA = Class A Felony, FELB = Class B Felony, FELC = Class C, FELD = Class D Felony. [Note: This data element does not exist today in the ICIS "Disposition" table. It is assumed that this would be valuable to the users.]	char(4)
Penalty_Charge_Code	JCS_Disposition.Disposition_Chg	The crime for which a juvenile offender has been sentenced.	A juvenile offender could be sentenced for a crime that is different than that which he/she was convicted. (ie., Judge threw out the original conviction and defined his/her own (e.g., Au Par trial)). Code values for juvenile penalty charges should be validated against those values in the "SA_Charge_Allegation_Table" reference table.	varchar(20)
Statute_Year_of_Penalty_Charge	JCS_Disposition.Disposition_Chg_Yr	The year in which a charge was established within the Iowa State statute.	Statute year for juvenile charges can be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd_Yr.	number(4)
Judge_ID	JCS_Disposition.Judge_PIN	A unique ID identifying the judge who determined and imposed the penalty(s)	Generally one judge presides over a case. However, since a	char(9)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
		and/or sentencing on the convicted juvenile defendant.	judge can be changed / removed at any time during a case (or if a case is reopened against an offender, where a different judge presides over the same charge) one judge (Judge_ID) is associated with the *penalty* for each convicted charge. Judge_ID is a synonym for Person_ID, as found in both the "Person" and "Person_Judge" tables. Judge_ID should be validated against People_ID in the "People_Header" table and People_Role_Cd in the "Case_People_Index" table.	
Penalty_Receipt_Date	JCS_Disposition.Entered_DTTM	The date a convicted juvenile appeared before the judge to receive his/her penalty(s) and/or sentencing.		date
Penalty_Status	??? unknown	The status of a penalty or sentencing imposed on a convicted juvenile (E..g., imposed, deferred, suspended, etc.).	Determine: Does such a data element / definition exist in ICIS ?? May be embedded in Sentence_Tp / description.	??
Penalty_Condition	??? unknown	The condition which a convicted juvenile must successfully meet in order that the penalty status defined remain valid (E.g., probation, resident facility, restitution, community service, etc.).	Determine: Does such a data element / definition exist in ICIS ?? May be embedded in Sentence_Tp / description	??
Penalty_Review_Date	JCS_Disposition.Review_Dt	The date in which a convicted juvenile's penalty(s) are reviewed by the judge to … ????		date

Basic Business Rules:

- Each penalty relates to a single charge and case.
- Multiple penalties may relate to a single charge and case.
- A penalty is defined as either a time-based assessment or a monetary-based assessment.

Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Charge_Disposition" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.

  Remark: Total Data Elements / Admin Data Elements: ICIS "JCS_Charge" 16 / 4; "JCS_Adjudication" 15 / 4; JDW 21 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PENALTY_DOLLARS	Primary Key: Case_ID, Defendant_ID, Charge_ Count, Penalty_Type	"Penalty_Dollars" is a dependant entity.	"Penalty_Dollars" has a 1:1 relationship with "Penalty".	
Case_ID	Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	All relevant data regarding a monetary-based penalty will be stored in the "Penalty_Dollars" table. "Penalty_Dollars" is dependant on "Penalty" for its identity and existence. "Penalty_Dollars" is a subtype entity of "Penalty" and has inherited its key. The LDM will represent monetary-based penalty data for adults and juvenile defendants in separate 'Penalty Dollars' tables ("Penalty_Dollars" vs "JCS_Penalty_Dollars"). Only one monetary penalty can exist for the occurrence of one penalty (i.e., a penalty 'header'): - "Penalty_Dollars" has a 1:1 relationship with "Penalty". Case_ID is part of the primary key *(Case_ID*, Defendant_ID, Charge_Count, Penalty_Type)	char(17)
Defendant_ID	Disposition.Defendant_PIN	A unique ID identifying an adult defendant who has been convicted of one or more charges in a case, or who has been found 'not guilty' but responsible for fee payment(s).	Defendant_ID is a synonym for Person_ID, specifically for an individual who is (a convicted) defendant in a case. Multiple monitary-based penalties can exist per (convicted) charge per adult defendant in a case. - "Charge_Disposition" has a 1:M relationship with "Penalty", where Penalty_Type has a monetary-based type value. Defendant_ID is part of the primary key (Case_ID, *Defendant_ID*, Charge_Count, Penalty_Type).	char(9)
Charge_Count	Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is an ICIS-generated number within the adult Case Management module (it is, however, a user-assigned number within the juvenile Case Management module). Multiple counts of a single (convicted) charge can exist against an adult defendant. Charge_Count is part of the primary key (Case_ID, Defendant_ID, *Charge_Count*, Penalty_Type)	integer
Penalty_Type	Disposition.Sentence_Tp	Type of penalty that the convicted or responsible adult defendant has been assigned (E.g., jail, prison, fine, community service, etc.)	Penalty_Type is the means by which a penalty is classified as a monetary-based penalty (or as a time-based penalty). - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute monetary-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which monetary-based type codes are used exclusively for adult cases vs. juvenile cases.	
Dollar_Amount	Disposition.Fine	The total dollar amount the adult defendant is required to pay to fulfill the penalty assessed *per the specific charge and count.*	Unlike juvenile cases, the dollar amount for adult cases is maintained at the specific charge and/or charge count level (Verify: juvenile case financials are maintained at the case level only [business requirement or design issue ??]).	decimal(11,2)
Payment_Frequency	CFM_Schedule.Sched_Freq_Cd	The frequency with which scheduled payments must be made.	Do users need / want a payment frequency data element to be stored ??	char(3)
Payor	CFM_Schedule.Payor_PIN - and - People_Header.First_Name||Last_Name	Name of individual making payment to the victim, the Court, or to "Payee". ....????.	Is this a desirable data element ?? Do the users need / want ?? The Payor is only maintained at the case level in ; therefore any and all monetary penalty payments for a single case are the responsibility of the same one individual.	varchar(60)
Restitution_Indicator	Disposition.Disp_Restitution_Ind	Indicates whether monetary penalty is restitution	??? Is this needed / wanted by users ?? Is this needed, given that Sentence_Tp "Restitution Service" exists ???	char(1)

Basic Business Rules:

- A financial judgement(s) can be imposed on a defendant regardless of his/her innocence or guilt. These can include fines, fees, restitution, surcharges, etc., as well as combinations financial judgements (e.g., surcharges imposed on fines).
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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_PENALTY_DOLLARS	Primary Key: Case_ID, Incident_Sequence_No, Charge_Code, Charge_Count, Penalty_Type	"JCS_Penalty_Dollars" is a dependant entity.	"JCS_Penalty_Dollars" has a 1:1 relationship w/ "JCS_Penalty".	
Case_ID	JCS_Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	All relevant data regarding a monetary-based juvenile penalty will be stored in the "JCS_Penalty_Dollars" table. "JCS_Penalty_Dollars" is dependant on "JCS_Penalty" for its identity and existence. "JCS_Penalty_Dollars" is a subtype entity of "JCS_Penalty" and has inherited its key. The LDM will represent monetary-based penalty data for adults and juvenile defendants in separate 'Penalty Dollars' tables ("Penalty_Dollars" vs "JCS_Penalty_Dollars"). Only one monetary penalty can exist for the occurrence of one juvenile penalty (i.e., a JCS penalty 'header'): - "JCS_Penalty_Dollars" has a 1:1 relationship with "JCS_Penalty". Case_ID is part of the primary key *(Case_ID*, Incident_ Sequence_No, Charge_Code, Charge_Count, Penalty_Type)	char(17)
Incident_Sequence_No	JCS_Disposition.Incident_Seq	A unique system-generated ID identifying an occurrence of a particular offense committed by a juvenile, as defined by or within a specific case.	Incident_Sequence_No is part of the primary key (Case_ID, *Incident_Sequence_No*, Charge_Code, Charge_Count, Penalty_Type).	integer
Charge_Code	JCS_Disposition.Charge_Cd	The Iowa State crime code pertinent to the penalty and in which a juvenile was charged.	Charge_Code is part of the primary key (Case_ID, Incident_ Sequence_No, *Charge_Code*, Charge_Count, Penalty_Type) Code values for juvenile charges should be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd. NCIC codes are national crime codes and are also a part of Iowa's crime codes. "Charge_Cd_NCIC_Cd" is one data element defined within the "SA_Charge_Allegation_ Table"; these codes are also defined in the "Charge_Cd_NCIC_Cd" and "Codes_Master" tables (~ 445 codes identified).	varchar(20)
Charge_Count	JCS_Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is a user-assigned number within the juvenile Case Management module (it is, however, an ICIS-generated number within the adult Case Management module). Multiple counts of a single (convicted) charge can exist for a juvenile defendant. Charge_Count is part of the primary key (Case_ID, Incident_ Sequence_No, Charge_Code, *Charge_Count*, Penalty_Type)	integer
Penalty_Type	JCS_Disposition.Sentence_Tp	Type of penalty that the convicted or	Penalty_Type is the means by which a penalty is classified as	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
		responsible juvenile defendant has been assigned (E.g., community service, fine, restitution, community service, etc.)	a monetary-based penalty (or as a time-based penalty). - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute monetary-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which monetary-based type codes are used exclusively for adult cases vs. juvenile cases.	
Dollar_Amount	Calculated from CFM_Schedule data elements: Sched_Freq_Amt x (Sched_Freq_ End_Dt – Sched_Freq_Beg_Dt)	The total amount of money that must be paid on behalf of the juvenile defendant to fulfill the penalty associated with his/her *case*.	Verify: Unlike adult cases, the dollar amount for juvenile cases is maintained at the case level only (adult cases are maintained at the charge and/or charge count level).	decimal(11,2)
Payment_Frequency	CFM_Schedule.Sched_Freq_Cd	The frequency with which scheduled payments must be made.	Do users need / want a payment frequency data element to be stored ??	??
Payor	CFM_Schedule.Payor_PIN - and - People_Header.First_Name||Last_Name	Name of individual making payment to the victim, the Court, or to whomever.	Is this a desirable data element ?? Do the users need / want ?? The Payor is only maintained at the case level in ; therefore any and all monetary penalty payments for a single case are the responsibility of the same one individual.	varchar(60)
Restitution_Indicator		Indicates whether monetary penalty is restitution	??? Is this needed given that Sentence_Tp "Restitution Service" exists ???	char(1)

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Charge_Disposition" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT

- Remark: Total Data Elements / Admin Data Elements: ICIS "JCS_Charge" 16 / 4; "JCS_Adjudication" 15 / 4; JDW 21 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
PENALTY_TIME	Primary Key: Case_ID, Defendant_ID, Charge_ Count, Penalty_Type	"Penalty_Time" is a dependant entity.	"Penalty_Time" has a 1:1 relationship with "Penalty".	
Case_ID	Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	All relevant data regarding a time-based penalty will be stored in the "Penalty_Time" table. "Penalty_Time" is dependant on "Penalty" for its identity and existence. "Penalty_Time" is a subtype entity of "Penalty" and has inherited its key. The LDM will represent time-based penalty data for adults and juvenile defendants in separate 'Penalty Time' tables ("Penalty_Time" vs "JCS_Penalty_Time"). Only one time penalty can exist for the occurrence of one penalty (i.e., a penalty 'header'): - "Penalty_Time" has a 1:1 relationship with "Penalty". Case_ID is part of the primary key *(Case_ID*, Defendant_ID, Charge_Count, Penalty_Type)	char(17)
Defendant_ID	Disposition.Defendant_PIN	A unique ID identifying an adult defendant who has been convicted of one or more charges in a case.	Defendant_ID is a synonym for Person_ID, specifically for an individual who is a convicted defendant in a case. Multiple time-based penalties can exist per penalty charge per adult defendant in a case. - "Charge_Disposition" has a 1:M relationship with "Penalty", where Penalty_Type has a time-based type value. Defendant_ID is part of the primary key (Case_ID, *Defendant_ID*, Charge_Count, Penalty_Type).	char(9)
Charge_Count	Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is an ICIS-generated number within the adult Case Management module (it is, however, a user-assigned number within the juvenile Case Management module). Multiple counts of a single charge can exist against an adult defendant. Charge_Count is part of the primary key (Case_ID, Defendant_ID, *Charge_Count*, Penalty_Type)	integer
Penalty_Type	Disposition.Sentence_Tp	Type of penalty that the convicted adult defendant has been assigned (E.g., jail, prison, fine, community service, etc.)	Penalty_Type is the means by which a penalty is classified as a time-based penalty (or as a monetary-based penalty). - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute time-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or	char(2)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
			in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which time-based type codes are used exclusively for adult cases vs. juvenile cases.	
Facility_Type	Disposition.Sentence_Facility_Tp	Facility type where offender is will serve time (jail, prison, residential facility)		char(1)
Facility_Name	People_Header.XXXXXXXXXXXX	The name of the facility where the convicted offender will serve his/her time.	Is this stored in ICIS ??	
Years	Disposition.Yrs	Number of years the convicted offender was sentenced to served.		integer
Months	Disposition.Mos	Number of months the convicted offender was sentenced to served.		integer
Hours	Disposition.Hrs	Number of hours the convicted offender was sentenced to served.		integer
Sentence_Start_Date	Disposition.Effective_Date	Date convicted offender begins serving his/her sentence.		date

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_PENALTY_TIME	Primary Key: Case_ID, Incident_Sequence_No, Charge_Code, Charge_Count, Penalty_Type	"JCS_Penalty_Time" is a dependant entity.	"JCS_Penalty_Time" has a 1:1 relationship w/ "JCS_Penalty".	
Case_ID	JCS_Disposition.Case_ID	A unique ID identifying an individual case in the Court system.	All relevant data regarding a time-based juvenile penalty will be stored in the "JCS_Penalty_Time" table. "JCS_Penalty_Time" is dependant on "JCS_Penalty" for its identity and existence. "JCS_Penalty_Time" is a subtype entity of "JCS_Penalty" and has inherited its key. The LDM will represent time-based penalty data for adults and juvenile defendants in separate 'penalty time' tables ("Penalty_Time" vs "JCS_Penalty_Time"). Only one time penalty can exist for the occurrence of one juvenile penalty (i.e., a JCS penalty 'header'): - "JCS_Penalty_Time" has a 1:1 relationship with "JCS_ Penalty". Case_ID is part of the primary key *(Case_ID*, Incident_Sequence_No, Charge_Code, Charge_Count, Penalty_ Type)	char(17)
Incident_Sequence_No	JCS_Disposition.Incident_Seq	A unique system-generated ID identifying an occurrence of a particular offense committed by a juvenile, as defined by or within a specific case.	Incident_Sequence_No is part of the primary key (Case_ID, *Incident_Sequence_No*, Charge_Code, Charge_Count, Penalty_Type).	integer
Charge_Code	JCS_Disposition.Charge_Cd	The Iowa State crime code pertinent to the penalty and in which a juvenile was charged.	Charge_Code is part of the primary key (Case_ID, Incident_ Sequence_No, *Charge_Code*, Charge_Count, Penalty_Type) Code values for juvenile charges should be validated against those in the "SA_Charge_Allegation_Table" reference table under Charge_Cd. NCIC codes are national crime codes and are also a part of Iowa's crime codes. "Charge_Cd_NCIC_Cd" is one data element defined within the "SA_Charge_Allegation_ Table"; these codes are also defined in the "Charge_Cd_NCIC_Cd" and "Codes_Master" tables (~ 445 codes identified).	varchar(20)
Charge_Count	JCS_Disposition.Charge_Cnt	A unique ID identifying the specific count of a charge pertinent to the penalty.	Charge_Count is a user-assigned number within the juvenile Case Management module (it is, however, an ICIS-generated number within the adult Case Management module). Multiple counts of a single convicted charge can exist for a juvenile defendant. Charge_Count is part of the primary key (Case_ID, Incident_ Sequence_No, Charge_Code, *Charge_Count*, Penalty_Type)	integer

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
Penalty_Type	JCS_Disposition.Sentence_Tp	Type of penalty that the convicted juvenile defendant has been assigned (E.g., community corrections, community service, etc.)	Penalty_Type is the means by which a penalty is classified as a time-based penalty (or as a monetary-based penalty). - Note: A determination must be made to identify those ICIS Sentence_Tp values that constitute time-based penalties. Penalty_Type is part of the primary key (Case_ID, Defendant_ID, Charge_Code, Charge_Count, *Penalty_Type*) 35 type codes exist on ICIS in the "Sentence_Tp" table (or in the "Codes_Master" table). E.g., CC = Community Corrections, CS = Community Service, DT = Detention, FN = Fine, JL = Jail, PR = Probation, PS = Prison. Only a subset of these codes will be applicable for use as adult .Penalty_Type values in the JDW "Penalty" table. - Note: An assessment must be conducted to determine which time-based type codes are used exclusively for adult cases vs. juvenile cases.	char(2)
Hours	JCS_Disposition.Hrs	Number of hours the convicted juvenile offender was sentenced to served.		integer

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Charge_Disposition" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS "JCS_Charge" 16 / 4; "JCS_Adjudication" 15 / 4; JDW 21 / 2 (est)

TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_INCIDENT	Primary Key: Case_ID, Incident_Sequence_No, Charge_Code, Charge_Count	"JCS_Incident" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Incident" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 16 / 4; JDW 10 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_INFORMAL_AGREEMENT	Primary Key: Case_ID, Begin_Date	"JCS_Informal_Agreement" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Informal_Agreement" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 10 / 4; JDW 6 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_INTAKE_DECISION	Primary Key: Case_ID, Incident_Sequence_No, Charge_Code, Charge_Count, Decision_Date	"JCS_Intake_Decision" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Intake_Decision" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 12 / 4; JDW 6 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_PLACEMENT	Primary Key: Case_ID, Facility_ID	"JCS_Placement" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Placement" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 15 / 4; JDW 10 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_PLACEMENT_STATUS	Primary Key: Case_ID, Facility_ID, Placement_Date	"JCS_Placement_Status" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Placement_Status" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 10 / 4; JDW 5 / 2 (est)
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TABLE / ELEMENT NAME	ICIS SOURCE	DEFINITION	NOTES	FORMAT
JCS_COMMUNITY_SERVICE	Primary Key: Case_ID, Service_Type	"JCS_Community_Service" is a dependant entity.		

Basic Business Rules:

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Summary of Follow-up Activities:

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Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Community_Service" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.
- Remark: Total Data Elements / Admin Data Elements: ICIS 13 / 4; JDW 8 / 2 (est)
-

JCS_Community_Service_ Status	Primary Key: Case_ID, Service_Type, Begin_Date, End_Date	"JCS_Community_Service" is a dependant entity.		

Basic Business Rules:

-

Summary of Follow-up Activities:

-

Assumptions, Remarks, Issues, Concerns:

- Remark: Juvenile_Defendant_ID is not needed in the JDW "JCS_Community_Service_Status" table since only one juvenile defendant can be associated with a case; it can, however, be added as a redundant data element for user convenience.

- Remark: Total Data Elements / Admin Data Elements: ICIS 12 / 4; JDW 6 / 2 (est)

8.0 APPENDICES (CONT'D)

8.5 Appendix E: Assessment Recommendations.

Exhibit 7.1	(Recommended Solution Summary - Pg 49 - 51)
Table 7.2	(Teradata HW / SW Configuration: High Level - Pg 54)
Table 7.3	Teradata HW / SW Configuration: Detailed Level
Table 7.4	Oracle HW / SW Configuration: High Level
Table 7.5	Oracle HW / SW Configuration: Detailed Level
Exhibit 7.6	Additional / Alternative Tools

Exhibit 7.2: Teradata Hardware / Software Configuration: Detailed Level

Quantity	Marketing ID	Description	US List	Total US
		Number of Nodes	GB Memory/Node	Total Available GB
Base Symbios Disk System		**1**	**1**	**67**
1	CPSC104-K000	Base RDBMS 4700 one node System	$160,000	$160,000
1	WFSC104-K000	AWS, and Software for 1 to 12 nodes	$27,100	$27,100
3	MSUC103-K000	Additional UNIX root disks (9GB ea)	$2,750	$8,250
1	MSPC101-K000	Disk Array Subsystem with 2 controllers for up to 20 disks (Symbios)	$55,000	$55,000
20	MSUC104-K000	Disk Array disk 4.2GB (5 required per array in RAID5) (Symbios)	$1,600	$32,000
1	DBSC038-K000	Teradata DBMS SW Base Node < 128 Users	$48,000	$48,000
1	DBSC042-K000	Teradata Client Node License	$8,000	$8,000
1	DBSC063-K000	Teradata Manager for UNIX, first NT WorkStation	$10,100	$10,100
		Total List Price		**$348,450**
Backup / Recovery Option: Archive Tape and Software System				
1	Via SPR	*1 DRIVE 10 SLOT DLT7000 TAPE LIB	21,995	$21,995
1	DBSC046-K000	Teradata ASF2 Node License	$5,000	$5,000
	DBSC047-K000	Teradata ASF2 System License	$18,000	$0
1	DBSC048-K000	Teradata ReelLibrarian System License	$34,000	$34,000
		Total for Tape Backup System		**$60,995**
Backup / Recovery Option: IBM MVS Host Connection				
1 = Required	Host SW is via SPR			
	H075-8400-0000	Teradata Cobol Preprocessor2, MVS	$8,000	$0 Optional
	H075-8420-0000	Teradata PL/I PreProcessor2/MVS	$8,000	$0 Optional
	H075-8452-0000	Teradata C Preprocessor2, MVS	$8,000	$0 Optional
1	H075-8000-0000	Teradata Client for IBM MVS	$14,630	$14,630
1	H075-8010-0000	Teradata Utilities for IBM MVS	$7,000	$7,000
1	H075-8040-0000	Teradata BTEQ for IBM MVS	$8,500	$8,500
	H075-8050-0000	IBM HOST - CICS INTERFACE for IBM	$9,120	$0 Optional
	H075-8060-0000	IBM HOST - IMS / DC INTERFACE for I	$11,500	$0 Optional
	H075-8150-0000	MULTILOAD for IBM MVS	$25,000	$0 Optional
	H075-8161-0000	Teradata FastExport / IBM MVS	$25,000	$0 Optional
1	DBSC044-K000	Teradata Channel Support per channel	$6,000	$6,000
1	MXKC104-K200	Tailgate for FIPS 60 underfloor	$1,600	$1,600
1	MXKC104-K000	FIPS-60 (NCR) channel attachment.	$7,000	$7,000
		Total for MVS Host Connection		**$44,730**