



# City of Houston - Municipal Courts Case Management System Conceptual Design



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# Introduction

## **Introduction**

Every year, the City of Houston Municipal Courts adjudicate over 1.2 million citations and conduct over 400,000 trials for misdemeanor offenses from citations issued within Houston city limits. The City of Houston's (the City's) integrity depends on the City's Municipal Courts (the Courts) providing timely and reliable disposition of these cases. Because of the high volume of citations and trials, the Courts require a reliable automated system to manage the critical processes of the City's complex court operation. The current legacy system not only does not achieve this requirement, it lacks functionality to efficiently serve all stakeholders relying on the system. As a result, the City developed a conceptual design for a replacement system.

## **Project Mission Statement**

During the conceptual design, the City adopted a mission for replacing the Courts' current case management system (legacy courts system) with a goal of expediting the Courts' ability to provide defendants with timely and accurate disposition of their cases by:

- Automating labor intensive work performed by the City's enforcement, judicial, chief clerk, and legal functions
- Improving services provided to both the attorney of record and bondsmen

## **Summary of Work Performed**

This project has been completed through a joint effort of key internal stakeholders under the direction of a Steering Committee comprised of: the City's Chief Information Officer, department directors from the Courts' judicial and administrative organizations, an HPD captain with the authority to make decisions for the Chief of Police, and the Legal Department's Division Chief responsible for City prosecutors in the Courts. Each Steering Committee member designated representatives within their operations to participate on the Conceptual Design Team. Over two thousand work hours of effort have been expended in facilitated work sessions focused on documenting key business processes and identifying requirements for the design of a new Municipal Courts Case Management System (New Courts System). In a parallel effort, a technology team translated the Courts' requirements into an applications design and defined the requirements for an application development platform to meet the needs of this project and provide the City with an applications development platform for use in future development efforts by other departments.

## Objective of Document

This document presents the conceptual design of the New Courts System that will replace the legacy system currently used by the Courts. The design presented in this document is based on a series of in-depth work sessions with key stakeholders in the Courts functions and the Steering Committee has confirmed that this conceptual design document defines the needs of the Courts' operations.

Based on the combined effort of over 15 people, the Steering Committee designed the automated system needed by the Courts to efficiently manage the entire citation cycle from issuance through the final disposition of each case. There is a high degree of confidence that the New Courts System based on this design, will provide the City with the functionality needed by the following six key stakeholder groups:

### Internal Stakeholders

- 1) The Judicial Branch
- 2) The Administrative Branch
- 3) The Prosecutors
- 4) Houston Police Department

### External Stakeholders

- 5) Defense Attorneys
- 6) Bondsmen

Further, the conceptual design for the New Courts System is based on a composite of knowledge gained from:

- Recent reengineering of the entire process around the Courts operations
- Lessons learned from the implementation of the legacy courts system, which is a third party integrated case management system
- Running a custom developed system for over fifteen years
- MITRE Corporation's assessment comparing Houston's operations with peer groups across the country

Such knowledge combined with the experience of key leaders in each stakeholder group expedited the initial design process, which leveraged their understanding of the processes, how the New Courts System needs to handle source documents within each process, key actions and events that require special processing, and laws that govern the Courts operations.

This design document is divided into five sections which set the boundaries for this software development project, describe business processes that will be supported by the New Courts System and outline the software components that will be built.

- **Business Needs and Challenges, Section 1.0** - documents the Courts' business operations. It describes the goals of a successful project, identifies significant business issues, provides an inventory of key stakeholders, and defines how the project can be divided into phases to expedite delivery of the most critical functions.

- **Project Approach, Section 2.0** - describes how the new system project will be managed. It is based on proven project governance techniques, previously used for the City's SAP project, and it describes a phased implementation approach that fits the business requirements.
- **Process Architecture, Section 3.0** - provides a high level view of the Courts' current processes and identifies the automated tasks required to operate the Courts. See Appendix C for Level 2 process models. This section addresses the changes, issues, and challenges need to improve the Courts operations, and as well as anticipated future system capacity requirements and describes how individual users will work with the New Courts System.

Additionally, Section 3.0 outlines roles for both management level personnel (Business Process Owners) and the knowledge worker (Transaction Specialists), who will provide the detailed information required to design each transaction and integrate the transactions into the overall business processes. The Stakeholder Readiness Strategy, an essential element for project success, is divided into the following areas:

- Development of effective policies and procedures
  - Communications strategy to ensure all stakeholders know what is happening
  - Strong training program
- **Applications Architecture, Section 4.0** - describes the automated functionality required to support the Courts' processes at two levels. The first level identifies the nine modules required to deliver key user functionality, shows the high level data flows among the modules, and highlights the key design concepts that need to be adhered to during the development phase. The second level provides a graphical view of the key inputs, master files, business rules, and outputs for each module identified in the level one document. Also, a description of the functionality envisioned for each module is provided along with the graphic.
  - **Application Architecture Development, Section 5.0** - provides an overview of the Applications Development tools required to complete this project. There are seven components envisioned for the Applications Architecture Development and a description of the functionality anticipated for each component is presented in this section along with an implementation strategy for selecting the appropriate third party tools required to transform the Architecture into a viable Applications Development Platform. Decisions made during the development of the Development Platform will have a direct impact on the City's existing software standards and this section provides the guidelines for handling these decisions.

## **Assessment of Readiness to Achieve Mission**

The Steering Committee reached a consensus adopting this conceptual design document as the system solution that will meet the requirements of the Courts' operations. Accordingly, the key internal stakeholder groups are committed to delivering a solution to replace the legacy courts system by September 2011. The challenge will be juggling the priorities of maintaining daily court operations, while committing key personnel to full-time positions on this project. The current operating environment presents a constant struggle to complete court dockets on a timely basis and handle payments without requiring citizens to wait in line for extended periods of time.

Directors responsible for administrative, judicial, and legal functions recognize the need to assign their most knowledgeable personnel to the project and they are making arrangements to reassign or hire personnel who can replace those assigned to the project. However, if emergency situations involving daily operating issues require the assistance of personnel assigned to the project team, such diversion will have a negative impact on the project schedule.

Even with key personnel assigned to the project, the success of the project will also require involvement of personnel running the daily operations during design sessions, system testing, data cleansing/conversion and training activities. If daily operations priorities restrict the involvement of the Courts personnel there will be a direct impact on the quality of data loaded in the system, the effectiveness of new operating procedures, and staff readiness to use the new system. The Courts' senior management team understands the level of effort required for implementing the New Courts System, but events outside of their control and that of the project team could create obstacles and impair the readiness effort.

Data cleansing also will present a major challenge to delivering a viable replacement for the legacy system due to a large number of data anomalies and the "flexibility" within the legacy system already causing data integrity issues. As such, major challenges are expected to ensure only correct data is loaded in the New Courts System, which may require creative solutions to ensure that the reliability of the new system is not affected by current data integrity issues. For example, it may be necessary to identify cases that will require special handling and only convert basic data for those cases. Then, when specific events occur, a special team will perform cleansing activities required for the new system to correctly handle the case. However, these issues could have an adverse impact on the project.

Development of a new applications development platform is a critical element for building a New Courts System that can adapt to changing requirements for the next eight to ten years. Introducing new technology will introduce challenges from two perspectives. First, the City does not have the depth of skills required to build the new platform and use it to build the New Courts System. This will require more recruiting and an effective retention program. Second, new technologies will be introduced when integrating a variety of specialized vendor products to create the new development platform. This will introduce a learning curve in addressing issues, which could create delays in meeting the project schedule. However, the City will mitigate these issues by engaging a technology firm with experience building this type of development platform and the ability to provide the tutoring required for the City's personnel to develop proficiency with the new applications development architecture.

## Next Steps

With the completion of the conceptual design, two alternatives for building this system have been indentified:

- Use SAP's financial module and technical architecture to build a new system
- Develop a custom system that interfaces into SAP's financial module and, where feasible, use "best of breed" software packages for functions such as collections and point of sales applications for payment processing

In conjunction with selecting the best approach for delivering a New Courts System, one or more professional services firms will be selected to assist the City with this project. This document serves as a critical evaluation element for determining the best approach for building the New Courts System. Also, it will become an Appendix to the Statement of Work defining the roles and responsibilities of City personnel and selected vendors and provide the project plan for the detail design and development effort.

# **1.0 Business Needs and Challenges**

## **1.0 Business Needs and Challenges**

### **1.1 Stakeholder Roles & Responsibilities**

Six city operations have a major stake in the development of the New Courts System and four external parties will be affected by the project. The combined number of system users will exceed five thousand (5,000) individuals with three to four hundred (300 – 400) users generating a significant portion of the transactions required for the court operations. The project success depends on obtaining buy-in of all of these stakeholders and providing effective training to ensure they are ready to use the New Courts System on the day implemented. Exhibit 1 provides an overview of the stakeholder groups. Appendix B provides a detailed description of how each group will use the New Courts System and identifies high-level issues to be addressed during the project to ensure overall system satisfaction.

Houston Police Department (HPD) officers write the majority of citations handled by the Courts, arrest individuals on warrants and Capias Pro Fines, detain arrested persons until either their case is adjudicated or they post bond, receive subpoenas to testify in case of trial, and appear for testimony on the day of trial. Balancing schedules for HPD officers between performing their enforcement responsibilities and appearing for trial requires the Courts to schedule court sessions around appearance dates assigned to each officer. To address logistics of ensuring an officer is ready to testify, the HPD Liaison Office handles the check-in/check-out process. In addition to HPD, non-City enforcement agencies such as Metro perform similar roles. Also, several other city departments handle enforcement responsibilities for violations of city health codes, building codes, etc. and must appear in court to testify at trials.

The Municipal Courts Administration Department (MCAD) processes citations and creates cases, receives payments for fines and fees, manages bailiffs, processes legal documents associated with court proceedings, processes requests for alternative resolutions to citations, processes documents required to demonstrate compliance with alternative resolutions, and handles accounting activities for revenues and expenditures. MCAD customer service representatives provide direct customer service through the PSC and indirect customer service processing the extraordinary volume of mail received in the Courts operations. Also, MCAD maintains a collection call center to handle delinquent cases less than 60 days old and supervises external collection contractors who handle cases exceeding the 60 day threshold. The City's 3-1-1 Department assists MCAD by answering calls regarding citations.

The Municipal Courts Judicial (MCJ) group is comprised of the judges who adjudicate cases and their support staff. Only judges are authorized to issue judgments which include determining when to dismiss cases, assessing fines, or allowing additional time for compliance. The City's Legal Department provides City prosecutors who assess each case to determine if there is a legal basis for the City to pursue the case, make recommendations to the judge on disposition of cases, and prosecute cases that go to trial.

Finally, bonding companies post surety bonds for defendants with fail-to-appear citations and defendants may hire defense attorneys to represent them during legal proceedings associated with their case(s).

**Exhibit 1 Overview of Key Stakeholders – Roles and Counts**

Stakeholder	Major Functions	Numbers	Level of Usage	Case Admin	Detention	Adjudication	Financial
<b>Internal</b>							
HPD	Traffic Enforcement, Patrol, Neighborhood Protection	3,000	Heavy Activity Related To Subpoenas And Reviewing Case Records In Preparation For Trials	Issue Citations		Testify in Trials	
	Jail	50			Booking & Release		
	Liaison	10	Check-in Process			Courts Check-in	
Other City Enforcement Departments		700	Same as HPD	Issue Citations		Testify in Trials	
MCAD	Citation Processing	160	High Volume Processing In All Functions Of The System Except Entering Judgments, Which Must Be Restructured Only To Judges	Citation Entry	Jail Booking Warrant Verification		
	Courtroom	100				Court Clerk	
	Customer Service Representative / QA	80				Compliance Requests / Submittals	Payments / Bond Processing
	Collections	25					Payments
	Mail / QA	30					Payments
	Finance	7					Accounting & Reporting
MCJ	Judges	80	High Volume Activity Around Processing Dockets And Entering Judgments			Arraignments, Trials, etc.	
	Support Staff	20				Issue Resolution / Administration	
Legal	Prosecutors	25	High Volume for Case Review & Recommendations			Recommendations	
	Support Staff	8				Attorney Support	
3-1-1	Call Takers	100	Review Case Info				
<b>External</b>							
Non-City Enforcement Officers		500	Initially Will Use Paper Documents	Issue Citations		Testify in Trials	
Outside Collections		10	Review Case Info				Payments
Bondsmen		50 - 100	Review Case Info				Post Surety Bonds
Attorneys	Attorney of Record	100	Review Case Info			Represent Defendants	

## 1.2 Vision for Success

Nine key objectives have to meet to achieve the Courts' vision for success:

- 1) The New Courts System must expedite the Courts' ability to provide citizens with a timely and accurate resolution of their cases, by streamlining business processes in five areas:

Area	Streamlining Requirements
Records Management	<ul style="list-style-type: none"> <li>▪ Capture case related records throughout the lifecycle of a case</li> <li>▪ Provide accurate updates to case information</li> <li>▪ Provide timely access to the correct version of the records</li> </ul>
Adjudication	<ul style="list-style-type: none"> <li>▪ Accelerate processing of judicial dockets by allowing judges to focus on rendering decisions</li> <li>▪ Simplifying steps required to change a decision</li> <li>▪ Quickly provide citizens with documents needed to comply with judges' decisions</li> </ul>
Enforcement	<ul style="list-style-type: none"> <li>▪ Provide enforcement agencies with timely access to warrants, subpoenas, case information, and court schedules</li> <li>▪ Obtain updates for HPD officers' work schedules on a timely basis</li> <li>▪ Provide reporting on performance metrics</li> <li>▪ Provide municipal jail personnel with accurate and timely access to charges/judgments data</li> <li>▪ Expedite the bonding process for citizens being held in jail</li> <li>▪ Expedite processing bonds submitted by bonding agencies</li> <li>▪ Obtain accurate and timely booking information and daily updates on "time served" from the jail system</li> </ul>
Citizen Interaction	<ul style="list-style-type: none"> <li>▪ Ensure warrant data is accurate</li> <li>▪ Minimize manual activities around bonding processes</li> <li>▪ Expedite arraignments and trials</li> <li>▪ Provide timely and accurate case information to citizen's attorney</li> <li>▪ Provide real-time updates for on-line payments</li> <li>▪ Minimize wait time during the payment process</li> </ul>
Payment Processing	<ul style="list-style-type: none"> <li>▪ Maintain effective controls over all payment processing activities</li> <li>▪ Provide effective tracking of changes</li> <li>▪ Improve capabilities for in-house collections</li> <li>▪ Improve the SAP interface</li> </ul>

2) The New Courts System should provide an effective balance between controls provided by embedded business rules and the flexibility of current manual processes that make it easy to handle unanticipated exceptions. To accommodate some flexibility requirements, the New Courts System must provide the capability to “undo”, edit, or reverse transactions while maintaining the integrity of the transactions in the following areas:

Stakeholders	Requirements for Transaction Reversals / Edits
Prosecutors	<ul style="list-style-type: none"> <li>▪ Recommendations before Judge’s action</li> <li>▪ Ability to change file direction to the point when the complaint is sworn (Web-based functionality)</li> <li>▪ Ability to re-file a case using data captured in the original case</li> </ul>
Judges	<ul style="list-style-type: none"> <li>▪ Remove judgment and account for any payments that have been applied under judgment</li> </ul>
PSC – Leads/Supervisor/Management	<ul style="list-style-type: none"> <li>▪ Reverse misapplied payments               <ul style="list-style-type: none"> <li>➢ Wrong case</li> </ul> </li> <li>▪ Reverse payments – case status               <ul style="list-style-type: none"> <li>➢ Paid in full - pre and post adjudication</li> <li>➢ Partial payments on pre-judgment cases</li> <li>➢ Insufficient funds (NSF)</li> <li>➢ Charge backs</li> </ul> </li> <li>▪ Change payment type code (credit card, money order)</li> <li>▪ Entered-In-Error (EIE) Process</li> <li>▪ Reverse event and future settings</li> <li>▪ Reverse misapplied DSC and community service completions</li> <li>▪ Reverse incorrect entry</li> <li>▪ Reverse money room transactions</li> <li>▪ Reverse vouchers</li> </ul>
MCAD – Court Services Q&A	<ul style="list-style-type: none"> <li>▪ EIE Process</li> <li>▪ Reverse event and future settings</li> </ul>
MCAD – Warrants	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>
MCJ	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>
Court Clerk	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>

- 3) The systems development process must solidify confidence among the key stakeholders by providing effective documentation of the business rules that drive the Courts processes and specify the logic to be used for handling exceptions.
- 4) The New Courts System needs unanimous agreement by the four internal stakeholders, that it is ready before finalizing the implementation date and initiating user training sessions. This agreement will be based on the results demonstrated during an in-depth series of testing based on:
  - Detailed test scripts based on detailed process maps developed during the detailed design phase
  - End-to-end business process verification using integrated techniques in the form of conference room testing that includes all parties affected
  - Thorough exception testing
- 5) Confirmation that effective training has been provided and both the Courts and HPD personnel are ready to use the New Courts System. This will entail:
  - Providing the management team with a thorough understanding of the end-to-end processes around the system
  - Maintaining accurate documentation of business rules embedded in the New Courts System and completing effective knowledge transfer to key management personnel
  - Completion of system functionality prior to training and training materials that accurately reflect the functionality of the New Courts System
  - Resolving outstanding training issues
  - Effective communication planning and execution
- 6) System security controls will prevent an individual from performing activities not included in their assigned security roles and the New Courts System will provide reports that will help identify potential issues with segregation of duties. Also, the New Courts System will simplify the security administration function by providing tools for linking roles to specific transactions and creating composite roles to help reduce the number of unique roles required to administer security.
- 7) From a performance standpoint the New Courts System must:
  - Be available 24 hours a day, 7 days a week. If a citizen pays an outstanding ticket after a warrant has been issued, it is critical that the System closes the warrant immediately to prevent an arrest based on stale warrant data. The only window available for a scheduled outage is weekly on Tuesdays from 2:00 AM to 6:00 AM.

- Meet the following metrics for citizen wait time:
    - Jury Trial – 3 hours
    - Bench Trial – 1 hour
    - Arraignment – 1 hour
    - Public Service Counter (PSC) – 10 minutes per defendant (includes queue waiting time)
    - PSC – wait time per attorney request for resets requires further analysis
  
  - Meet the following metrics for case filing activities:
    - Citation Entry – 3 to 5 seconds per violation
    - Warrant Verifications – 3 minutes
  
  - Provide highly reliable, accurate reporting capability that can produce financial reports within a 10 to 15 minutes timeframe.  
(Note: The complexity and timeframe selected for the report will have a direct impact on the report runtime.)
- 8) The data conversion process must handle data inconsistency issues such as the possibility that a case in the legacy system can have multiple activity codes set even though only a single active code should be set on the case.
- 9) Address the service delivery issues that adversely impact the ability of defense attorneys and bondsmen from providing timely services to their clients.

### **1.3 Summary of Issues**

The performance of the legacy courts system is degrading and requiring court personnel to implement manual procedures to maintain court operations. This problem could divert key people needed to develop the New Courts System and impact the quality, delivery time, and budget for the project.

The Parking System Replacement Project could require the commitment of the same people needed to complete the New Courts System and the data conversion process required to transfer data from the legacy courts system to the new parking system will depend on the same individuals required to convert non-parking cases to the New Courts System.

This project will have to address data integrity issues when data is converted to the New Courts System.

- The legacy courts system sets multiple status flags for a case and special logic will be required to load cases with the correct status and it may require manual processes

- The Courts personnel do not trust the warrant data maintained by the legacy courts system and significant effort will be required to load correct warrant data
- The previous conversion divided payments into individual components based on the percentage due to each third party. Further analysis is required to determine the impact on converting this data.
- Duplications of citation writers and individuals who only issue parking citations need to be deleted, but this may require a manual process

Experience from implementing the legacy courts system has created significant fear that the New Courts System will encounter similar problems. Overreaction to this fear could result in suboptimal decisions during development.

The legacy courts system requires significant manual processing to identify errors. The Courts personnel will have to adapt to significant process changes that depend on trusting the New Courts System to perform automated debit and validation processes.

Critical issues around releasing people from jail after posting bond cannot be fixed until HPD implements a new automated jail system.

Design of the New Courts System will need additional information about how to create an effective process for paying fees for the arrest on a municipal court warrant.

The New Courts System needs to provide:

- Better integration between payment processing and the credit card processing service without requiring the City to achieve payment card industry (PCI) compliance
- The citizen with a view of the Citizens Information Form (CIF) before requiring them to sign the documents in court
- Defined business rules for allowing attorneys to schedule vacations
- Assurances that the correct defendant is on the docket for each case
- Streamlined processes for preparing case documentation for dockets
- Easier access to HPD personnel who have to use the New Courts System through the HPD firewall

Inconsistent business rules need to be revised (e.g. requirement for a signature on each case reset at the window verses acceptance of a single signed form for multiple cases that are “dropped off” for resets).

Problems with handling corrections to records sent to DPS will continue – the only option is to reduce errors within the New Courts System.

## 1.4 Key Assumptions

- Parking function will be converted to a new system. The New Court System will not handle parking cases, and hence there will be no collection of parking-violation money using the New Court System.
- MCAD, MCJ and Legal will have sufficient staff to maintain the ongoing operations during the development of the New Courts system and the appropriate subject matter experts will be able to fully engage in the project.
- The City will be able to recruit and retain IT professionals with the appropriate skills.
- The existing test scripts can be modified to test the New Courts System.
- There are no issues with obtaining current transaction data maintained by the legacy courts system or the intellectual property associated with data models, data structures, etc.
- Will continue to use Texas Online for accepting payment until a later phase in the project
- Outside agencies do not change their requirements for interfaces during the development of the New Courts System

Pay-or-Set business process is not in the scope of the project and implementation at a later date may require major revisions to the New Courts System.

The New Courts System will enforce business rules around court processes and effective change-control procedures will be implemented to provide a structured and controlled process for making changes to existing rules.

## 1.5 Business Functionality Priorities

The Courts' personnel cannot handle the stress of implementing a new system while dealing with the issues being created by the legacy Courts system. Attempting to phase-in the New Courts System will create a very tenuous operating environment. There is strong consensus that the new system must handle all functionality required to manage all case types through their full lifecycle. Also, the implementation of the legacy system created significant problems during the implementation phase because major changes were made after training was delivered. Court personnel had to learn the new way of using the legacy system via an "on the job" experience. The implementation process was further complicated because the legacy system was not thoroughly tested before implementation and significant "debugging" was required while dealing with live cases.

The implementation of the New Courts System must avoid these system readiness issues by adhering to these four key principals:

- 1) Build a system that can handle all case types through their entire life cycle. This conceptual design document provides a solid stake for understanding the functionality that has to be delivered when the system is implemented.
- 2) Complete acceptance testing before setting the implementation date. The acceptance testing includes testing the training materials and validating data conversion results.
- 3) Provide integrated training so that HPD, Administrative, Judicial, and Legal personnel work with their counterparts during training sessions. In effect, the training needs to simulate a complete operation around each process and involve all “players” in training exercises.
- 4) Before a user is provided access to the production system, they must pass a test that demonstrates proficiency at their job while using the System.

Achieving the stakeholder readiness standard established by the Courts’ personnel dictates use of the following implementation strategy:

**Phase I**

- 1) Build a system that provides complete functionality for all existing case types and demonstrate through rigorous test scripts provided by Courts’ personnel that the New Courts System can handle each case type through the entire life-cycle
- 2) Develop functionality for use on the City’s internal network and provide a robust remote access capability that allows external stakeholders to use the system as if they were using a computer directly attached to the City’s network
- 3) Use Texas Online for on-line payments
- 4) Achieve complete stabilization of the Phase I system before initiating work on Phase II functionality

**Phase II**

- 5) Develop on-line customer service functionality, e.g. on-line payments
- 6) Provide web-based access to the system for HPD officers, defense attorneys, bondsmen, and defendants
- 7) Address opportunities such as providing Harris County with an automated transfer of Appeals records
- 8) Prioritize and address other requirements based on lessons learned from Phase I

## 1.6 Assessment of Options

Based on the City’s experience with the legacy courts system and results of software selection initiatives recently completed by other court systems in the State of Texas, we have concluded that there are no viable third party software products that can handle the City’s volume of transactions and the special business practices associated with a high-volume, fine-based court operation. The only viable option for the City is to develop a system that meets the requirements defined in this conceptual design document.

There are three basic options for performing a custom development project. Engage a professional services firm to perform a turn-key development effort, which is typically is the most expensive approach for custom development project. The least expensive option is using City personnel to manage the project and develop the required software. However, for complex development projects like the New Courts System, this approach must deal with the risk of project delays due to a lack of appropriate skills and turn-over without an effective replacement option. The third option supplements City personnel with personnel from professional service firms that can provide specialized skills and quickly assign personnel needed to supplement the City’s staff.

In conjunction with the third option, a project led by the City that is supplemented by selective use of professional services firms, we need to determine if the SAP applications development platform and select applications can help jump start this project. With the completion of the conceptual design document, the City is in a position to initiate a Request for Qualifications to select the appropriate firms to assist with the development of the New Courts System.

## 1.7 Critical Success Factors

The following table identifies the critical success factors that need to be addressed to ensure that the project meets its objectives. The middle column defines the potential risks if these factors are not addressed and the third column in the table identifies the steps that can be taken to mitigate the risks. During the planning phase, project managers will need to develop an effective risk management plan to address each factor and implement a proactive process for managing these risks.

Critical Success Factors	Potential Risk	Mitigation Strategy
<b>1. Build the right system</b>	A. Can’t get work done in a day B. Increased operating cost C. Negatively impacts all stakeholders D. City gets sued E. Loss of support and commitment of court personnel and sponsors	A. Define processes and business rules to support them B. Get qualified people to transfer design into workable system C. Define performance metrics and goals D. Design system to meet performance goals E. Appropriate direction from Steering Committee F. Use technology that provides the ability to perform asynchronous processes

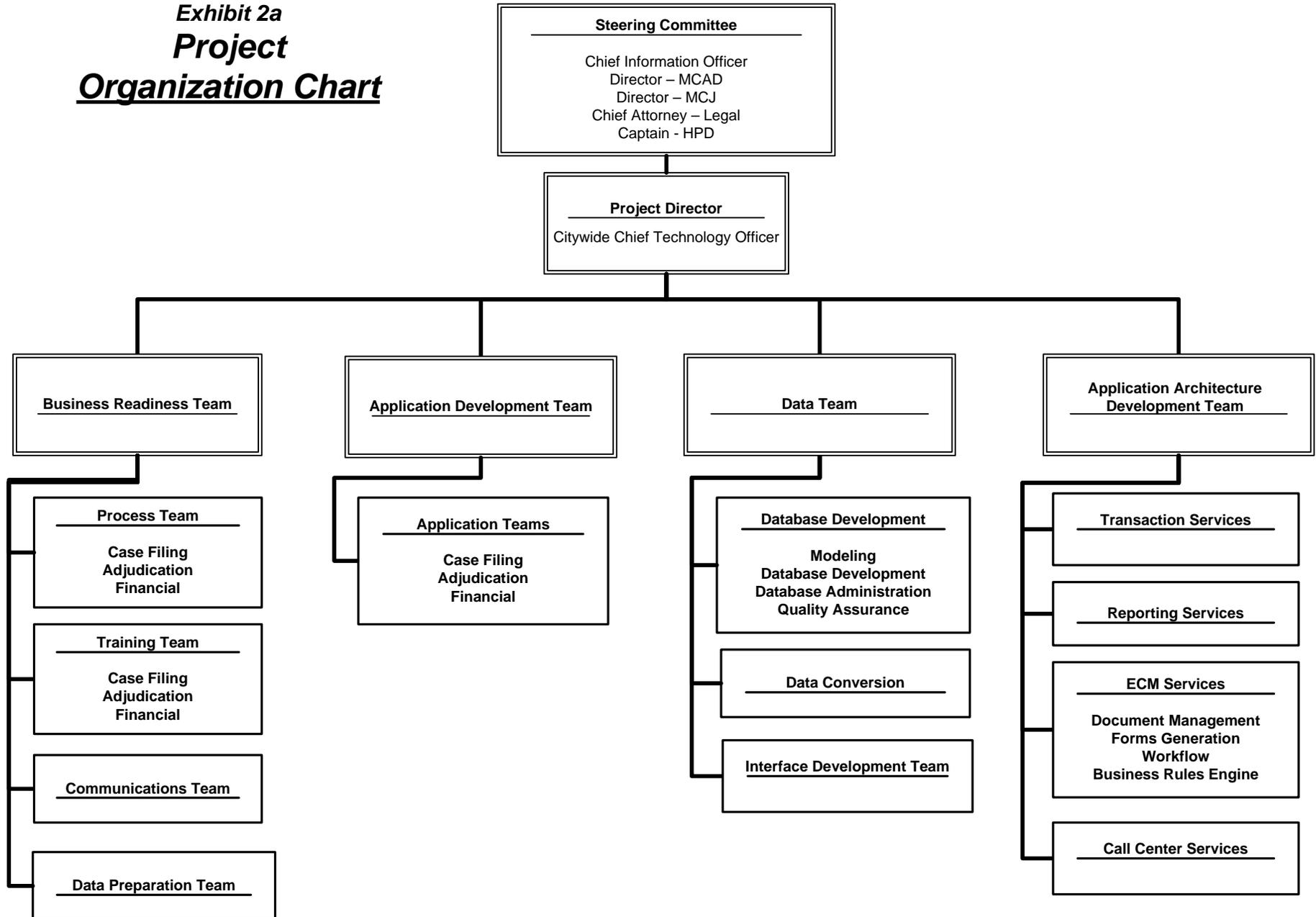
<b>Critical Success Factors</b>	<b>Potential Risk</b>	<b>Mitigation Strategy</b>
<b>2. Effective testing and training</b>	<ul style="list-style-type: none"> <li>A. Informal work-arounds are created</li> <li>B. Loss of confidence at key point of the project</li> <li>C. Negatively impact all stakeholders</li> </ul>	<ul style="list-style-type: none"> <li>A. Build effective test scripts</li> <li>B. Comprehensive training environment and hardware</li> <li>C. Effective change control process</li> <li>D. Comprehensive dress rehearsal of all processes</li> <li>E. Effective documentation and training of business processes</li> <li>F. Resources responsible for maintaining training documentations</li> <li>G. Interactive self-paced computer-based ongoing training using simulations</li> </ul>
<b>3. Technical and non-technical post go-live support</b>	<ul style="list-style-type: none"> <li>A. Back-logged data processes</li> <li>B. Negatively affects law enforcement</li> <li>C. Extended delays in resolving issues</li> </ul>	<ul style="list-style-type: none"> <li>A. Ongoing training</li> <li>B. 24/7 problem resolution process that integrates HPD/Muni/ITD</li> <li>C. Build right production support process and teams</li> <li>D. Effective change control process</li> </ul>
<b>4. Dealing with current jail system</b>	<ul style="list-style-type: none"> <li>A. Loss of skills in HPD needed to support legacy jail system</li> <li>B. Decreased reliability may have to delay key components of the New Courts System</li> </ul>	<ul style="list-style-type: none"> <li>A. Collaborate with RMS project and team</li> <li>B. Link Courts functions to Corrections Management System that HPD is implementing as part of a new Records Management System.</li> </ul>
<b>5. Rock-solid financials</b>	<ul style="list-style-type: none"> <li>A. Unfunded liability fees that should have been collected for an outside entity</li> <li>B. Could create City budget deficit</li> <li>C. Misappropriation of funds</li> </ul>	<ul style="list-style-type: none"> <li>A. Effectively design audit controls</li> <li>B. Streamline and automate financial processes</li> <li>C. Involve City auditors and conduct design review processes</li> <li>D. Make money related processes easier</li> </ul>
<b>6. Right people dedicated to project team</b>	<ul style="list-style-type: none"> <li>A. Team member burnout</li> <li>B. Lack of attention to details</li> <li>C. Delays in project due to lack of focus</li> <li>D. Lack of empowerment &amp; trust</li> </ul>	<ul style="list-style-type: none"> <li>A. Empower team members to bring in subject matter experts</li> <li>B. Cross-functional involvement</li> <li>C. Define escalation process for issue resolution</li> <li>D. Clear understanding of political and budgetary constraints</li> </ul>
<b>7. Collaborate and communicate with external stakeholders</b>	<ul style="list-style-type: none"> <li>A. Backlash from all stakeholders with political clout</li> <li>B. Project budget, timeline will be affected</li> <li>C. Major breakdown in processes</li> </ul>	<ul style="list-style-type: none"> <li>A. Involve external stakeholders in design discussions</li> <li>B. Designate external stakeholder to be a representative from their respective functional area</li> <li>C. Set expectation for designee to share information within their respective functional area</li> <li>D. Establish stakeholder analysis process and create engagement strategy for each stakeholder group and business process owner</li> </ul>

Critical Success Factors	Potential Risk	Mitigation Strategy
<b>8. Selection of right technology and implementation partners</b>	A. Performance issues B. Higher maintenance costs C. Difficulty in recruiting skilled personnel	A. Use component approach to simplify the replacement of tools without requiring significant change to other components B. Stress test tools before using them to build production code C. Use proven technology with a large customer base
<b>9. Find the right way to implement the system</b>	A. Project Failure B. Lost of confidence in the system C. Bad publicity D. Decreased employee morale E. Creating more work for managers for all the above (backlog and more reports) F. Increased cost and decreased revenue	A. Adhere to lessons learned from previous implementations B. Define and prioritize project scope C. Conduct extensive planning for suspension of court operations D. Define operational and project scope variables that are within a span of control and execute plans accordingly E. Pick implementation window and stick to it based on system test results and confidence in stakeholder readiness plan execution F. Define lead time for each process area G. Define acceptable risk

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## **2.0 Project Approach**

**Exhibit 2a**  
**Project**  
**Organization Chart**



## 2.0 Project Approach

### 2.1 Governance Structure

The New Courts System project needs a strong governance structure that can provide quick resolution of any issues that may impact its success. A strong Steering Committee has been established and the Mayor has assigned responsibility to the City's Chief Information Officer for resolving any issues that cannot be resolved at the Steering Committee level. This leadership structure should facilitate resolution of cross-departmental issues and provide an impartial arbiter for issues that cannot be resolved among the key stakeholders.

The success of the project will depend on the full support and commitment of all members of the Steering Committee. Their full support will have to be earned by proactively involving the committee in all key decisions and obtaining their sign-off on key project deliverables. This approach requires the Project Director recognize that the Steering Committee owns the project and all Steering Committee meetings must be structured around the decision making process rather than a status reporting approach.

### 2.2 Team Roles and Responsibilities

Exhibit 2a shows the project organization. The Project Director reports to the Steering Committee with responsibility for developing an effective project plan, defining a solid Statement of Work (SOW) that identifies the responsibilities of all internal and external parties working on the project, and managing the project in accordance with the SOW. The Project Director must provide proactive leadership to the project teams and coordinate high-level project activities with the Steering Committee.

Four (4) Project Managers will report to the Project Director:

- The **Business Readiness Team Manager** will lead all activities related to process design, development of business procedures, design acceptance testing scripts, preparation of test data, and coordination of the acceptance testing process. Under the direction of the Business Readiness Manager, both the Process and Training Teams will be divided into sub-teams that focus on three specific modules: case filing, adjudication, and financial. These teams will work with the Applications Development Teams during the Detailed Analysis & Design Phase to ensure user requirements are clearly defined and the design satisfies the Courts' requirements. While all training activities, including the development of training materials, will be coordinated by the Training Team heavy interaction and tight coordination between the Training Team, the Business Readiness Process Team and with the Applications Development Team to ensure the New Courts System meets the requirements. The Communications Team will handle all activities associated with organizational change management. The Data Preparation Team will coordinate the data cleansing process and validate that the data cleansing and conversion processes are converting reliable case data.

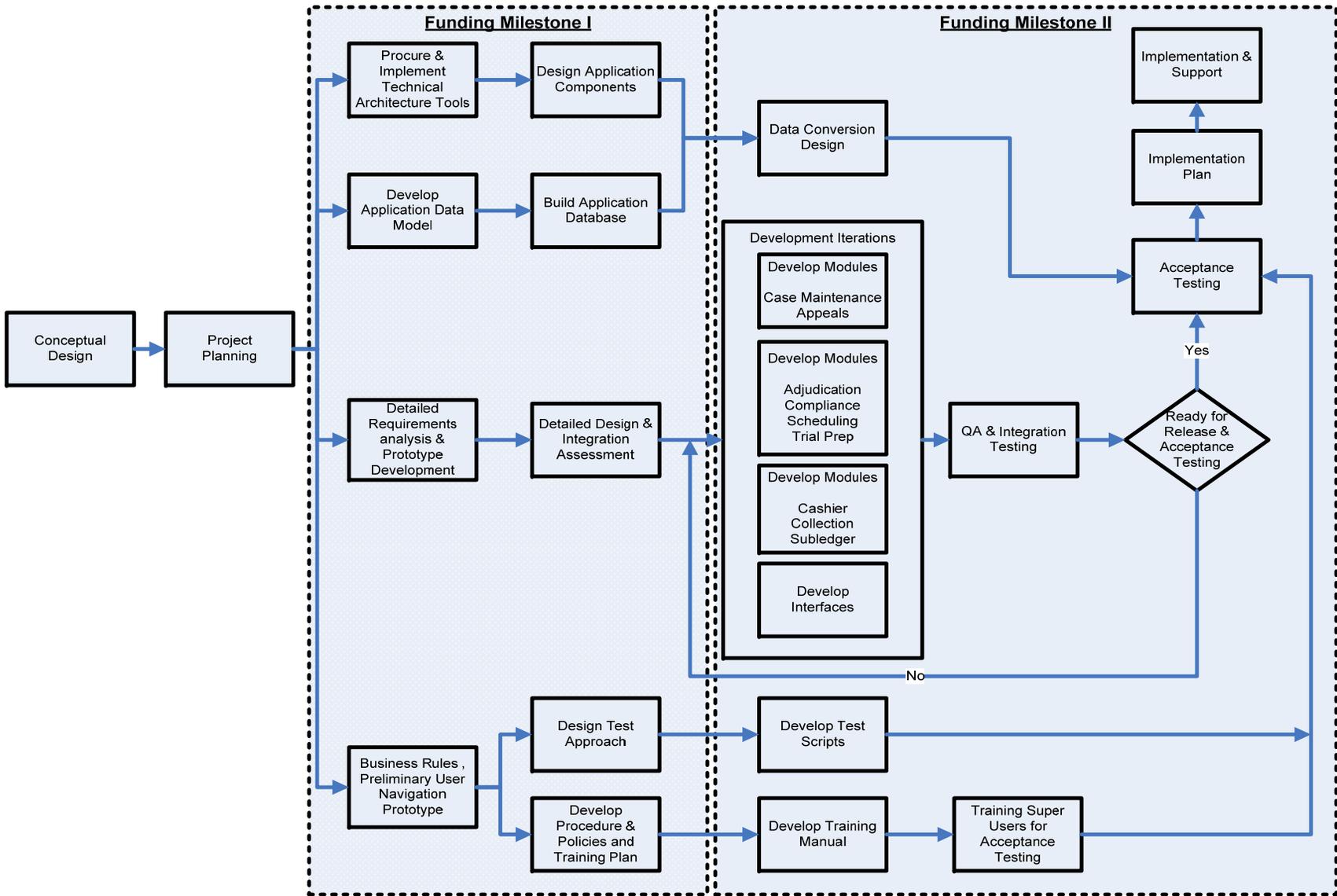
- The **Applications Development Team Manager** will coordinate the Applications Development for the New Courts System. The Team will be responsible for the design and development of the case filing, adjudication, and finance modules defined in the Applications Architecture. The Application Development Team will work closely with the Application Development Architecture Team to ensure that the proposed development platform handles the requirements for building the New Courts System.
- The **Data Team Manager** will focus on database development, data conversion, and interface development. The Data Team will be responsible for database design, database table structure, database change control and conversion programs required to transfer necessary data from the legacy system to the new database. This team will coordinate with the Business Readiness Data Preparation Team to ensure that appropriate data cleansing has been performed and manual entry procedures, if needed post conversion, have been validated. Finally, the Interface Development Team will build and test the interfaces required to complete the linkage between the Courts and external parties.
- The **Application Architecture Development Team Manager** will lead all activities required to build and support the Applications Development Platform that is defined in Section 5 of this document – Applications Architecture Development. The Applications Development Platform will provide the Applications Development Team with the productivity tools required to expedite the development of the New Courts System. In effect the Application Architecture Development Team will build a product and provide support to the users of their product. Once the Development Platform is implemented, the City will have product that can be used by all City departments to build custom software that conforms to a single development standard for software development. Since the Courts will be the first user of this platform, we anticipate the Application Architecture Development Team will remain actively involved with the project through the stabilization period following implementation of the New Courts System.

Other key functions will be incorporated into the project organization structure as additional planning work is completed. For example, the Project Director will require specialized support for budget analysis and reporting, procurement, quality assurance, recruiting and contract compliance.

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**Exhibit 2b**

**MUNICIPAL COURTS – APPLICATION DEVELOPMENT STRATEGY (MAJOR PHASES)**



## 2.3 Phased Implementation Approach

Exhibit 2.B depicts the three major Phases and Funding Milestones of the Phased Implementation Approach that will be used to manage the development and of the New Courts System. The three major Phases will be known as the Project Initiation Phase, the Detailed Analysis & Design Phase, and the Development & Implementation Phase.

The Project Initiation Phase will consist of the Conceptual Design (this document) and the outputs from project planning. Project planning will use the Conceptual Design document to assist in the development of a project budget and schedule. The estimated budget developed during Project Planning will be used with the Conceptual Design to help secure the needed funding for the second phase of the project, Detailed Analysis & Design.

### 2.3.1 Phase I – Project Initiation

- **Conceptual Design** - **This** document is a preliminary design based on defined organization stakeholder needs and describes the New Courts System. This Conceptual Design outlines the requirements for the new system to process cases from citation to final disposition.
  
- **Project Planning** - The project planning portion of the Project Initiation Phase involves creating a workplan and project budget to help guide all project teams through the execution and control of the remaining phases of the project. The plan created during this phase will help identify costs, time schedules, and project scope baseline estimates needed to create the New Courts System. The project planning will be completed for each of the four project areas.
  - Business Readiness Team
  - Application Development Team
  - Data Team
  - Application Architecture Development Team

Cost estimates developed in Phase I will be used to secure funding for Phase II, Detailed Analysis & Design, and will provide an estimate for the total project. However, the detail design work must be completed before a final budget for the development effort can be produced. Each funding milestone represents a key decision point that allows the City to commit funds to the project based on the best available data, while providing checkpoints to revalidate the business value of the functionality included in the scope of the project.

### **FUNDING MILESTONE 1**

### 2.3.2 Phase II – Detailed Analysis & Design

The Detailed Analysis & Design Phase documents all of the process transactions for the Project down to the smallest feature to establish a guide of the work to be performed in Phase III, Development and Implementation. Phase II of the New Courts System Project will be comprised of two (2) main areas. The first of these areas concerns the procurement and implementation of the needed architectural tools.

- **Procure & Implement Application Architecture Development Tools** - This series of tasks involve the selection, procurement, and linking of applications development tools that will help expedite the development effort by providing the developers with tools that enable the reuse of applications components (e.g. applications security) rather than duplicate custom programs that perform the same functions. These tasks need to be completed before starting development and testing. Procurement will include both software products and the hardware required to establish development and testing environments. Major deliverables include:
  - Software and hardware analysis & procurement
  - Application development environment(s) designed and deployed
  - Test strategy (performance and other infrastructure related)

The second area within Phase II provides detail analysis and design work in the following tasks:

- **Design Application Components** - The Process and Training Teams of Business Readiness will work with the Application Teams to develop prototypes of the user interface for the New Courts System and document the business rules for business transaction processing, as defined by the all stakeholder entities. The major deliverables in this area are the detailed design specifications that will be used to develop the complete New Courts System.
- **Develop Application Data Model** - The Data Model presents the primary entities and relationships of concern to the project. The major deliverables include the data model with data sources and requirements of the key entities, plus the program specifications for the software that will be required to load the legacy system's data into the New Courts System. The major focus will be defining the key entities needs to serve the way business is conducted for each organization. Data capture, validation and processing business rules will be defined.
- **Build Application Database** - Using the business requirements developed, the Data Team will define the application data model and build the application database. When the database build is completed, the Application Team will start work on the development activities. The deliverable from this area will be a functional Application Database. All the business rules related to the database will be added during this task.

- **Detailed Requirements Analysis & Design and Prototype Development** - The Application Team in collaboration with the Business Readiness Team will study the requirements gathered during the Conceptual Design and elaborate them. To ensure that the New Courts System performs all the necessary Courts functions, analysts will gather all information on what functionality is currently in place and what is needed. Functional user requirements will then be formally defined and delineated in the analysis phase. All requirements will be defined to a level of detail sufficient for systems design to proceed. All requirements need to be measurable and testable and aligned to the business need or opportunity identified in Phase I - Project Initiation.

At this time, it is also planned that a prototype of the application be developed to improve the understanding of business needs. The prototype will be developed in MS office tools using valid cases and other business requirements analysis tools. Some examples of prototype artifacts are screen mock-ups, report mock-ups, and business rules templates. The deliverables included in this phase are:

- Detailed Requirement Analysis

- Functional
- Nonfunctional
- Database Requirements
- Business Rules
- Reports
- User Interface
- Security
- Tests

- Other Optional Requirements (Examples)

- Data conversion needs
- Interface needs
- Training
- HW

- Prototype Artifacts (Examples)

- Screen Mockups
- Report Mockups

- **Detailed Design and Integration Assessment** - The Application Team enhances the logical design and produces a final detailed design. This final design meets all system goals for performance, and still has all of the application functionality and behavior specified in the logical design.
- **Business Rules and Preliminary User Navigation Prototype** -The Business Readiness Team works with the Application Team to finalize all the business requirements and rules that are needed as part of the system design and development. The deliverables are:

- User Navigation Prototypes or Mockups
- Business Process Rules

- **Design Test Approach** - The objective of application systems testing is to ensure that the system meets the full requirements, maintains the quality of the product, and remains within the cost range established at the project outset. At the end of the project development cycle, the user should find that the project meets or exceeds all expectations as detailed in the requirements. Any changes, additions, or deletions to the design specifications will be documented through change control and tested at the highest level of quality allowed within the remaining time of the project and within the ability of the test team. The deliverable in this area is the test plan.
  
- **Develop Policies & Procedures and Training Plan** - Developing and maintaining a training plan is critical to the success of this project. The goals of the training plan are:
  - Assess existing policies and develop an action plan to ensure that the Courts' policies will support the design of the New Courts System
  - Prepare a thorough outline of all procedures required to support the New Courts System
  - Define an effective approach for building proficiency required to process all transactions, manage processes, and enforce controls
  - Establish processes for maintaining training materials beyond the life of the project
  - Document logistics required to deliver effective training programs, including an estimate how of many trainers will be required and approach for developing competency of trainers
  - Develop approach for testing proficiency after a training session

The deliverables in this phase include the Policies and Procedures and the Training Plan.

While the project budget estimation to be developed in Phase I Project Planning will provide a ballpark estimate for the anticipated total project costs, a more accurate assessment of the project budget for Phase III (Development & Implementation) will now be made. This will require passing through another funding milestone.

## **FUNDING MILESTONE 2**

### 2.3.3 Phase III – Development & Implementation

The Development & Implementation Phase marks the point in the project where the detailed designs created in Phase II are used to build the complete application (modules and interfaces) through multiple development iterations called agile software development. The application will be tested for quality assurance, from test scripts created in this phase, during the development and system integration processes. Training manuals will be developed and selected staff (Super Users) will be trained for acceptance testing.

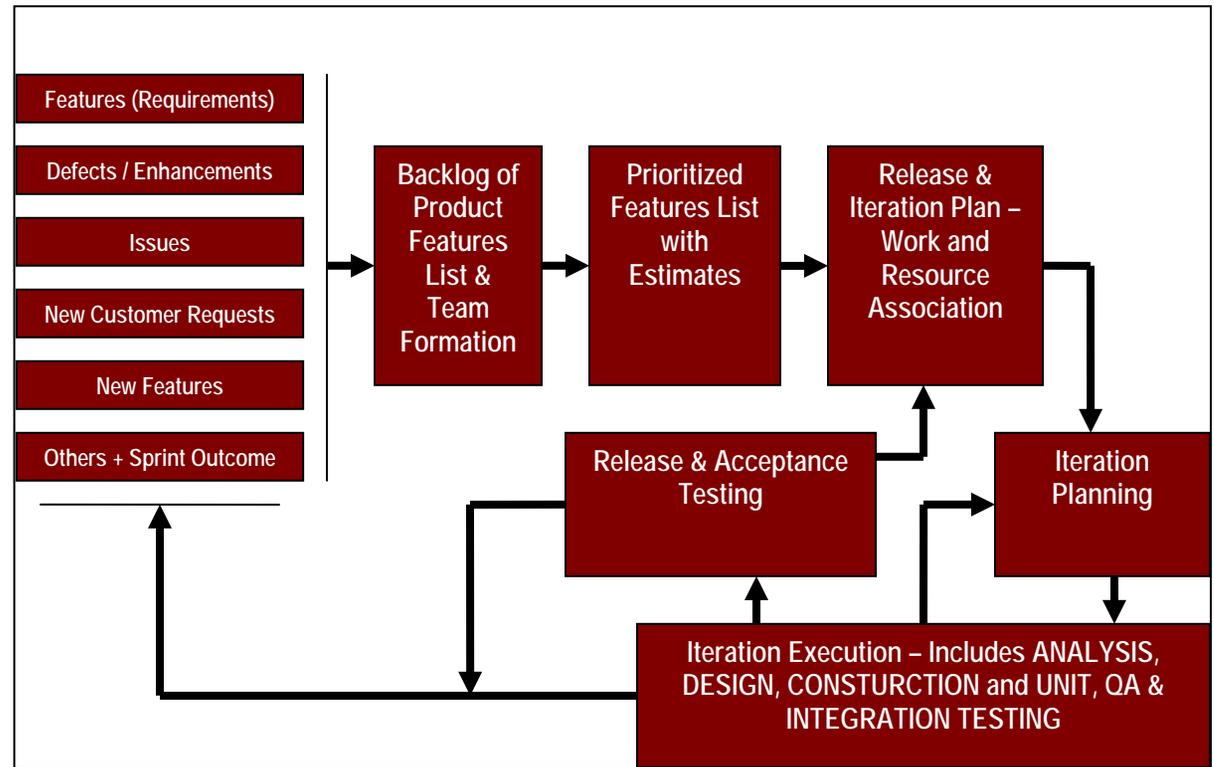
Once application quality assurance and integration checks have been completed, Super Users will perform acceptance testing with Business Process Owners and Transaction Specialists. The acceptance testing process will validate the functionality of the New Courts System, demonstrate the effectiveness of the training program, and validate the data conversion process. The results of the acceptance test will be presented to the Steering Committee and when approved, an implementation date will be established.

During the Implementation Phase, the balance of Court employees will be trained on the New Courts System and data from the legacy Courts system will be cleansed and converted to the New Courts System database. The Courts' management teams will lead a series of structured sessions to validate readiness to perform responsibilities for the new procedures and a “dress rehearsal” will be conducted to simulate a full life-cycle of court processes. Once the tasks defined for the implementation phase are successfully completed, the New Courts System will go-live and the Project Team will provide ongoing support until the Courts achieve a stable operation.

- **Agile Development** - Given the project priorities and time constraints, the project management methodology will adopt agile software development techniques for the development process. An agile methodology helps engage the users in the development cycle by demonstrating core functionality throughout development and obtaining feedback before the final application is delivered. This approach should help the team deliver a product that is more responsive to Courts' stakeholders.

Agile methods have two main units of delivery: releases and iterations. A release consists of several iterations, each of which is like a micro-project of its own. Features, defects, enhancement requests and other work items are organized, estimated and prioritized, then assigned to a release. Within a release, these work items are then assigned by priority to iterations. The diagram below summarizes this.

Agile software development assumes that the processes required to create high-value working software in today's economy are unpredictable, since requirements change, technologies change, and human resource productivity is highly variable. Due to this variability, the software development process needs to be flexible to create the desired outcome. Agile development accomplishes this by keeping progress highly visible, frequently inspecting the project outcomes, and maintaining an ability to adapt as necessary in changing circumstances. The benefits of agile development methodology are derived in part by placing a tremendous amount of responsibility and accountability on individual team members. Also, agile development methodology provides a collaborative environment that supports a high quality outcome from the Business Readiness Team and the Application Development Team.



- **Develop Test Scripts** - When the application design is completed, the Business Readiness Team can start work on developing the test scripts in order to quality check the development for a particular application module. At the end of this phase the Business Readiness Team should be able to document and produce the test scripts.
- **Quality Assurance (QA) & Integration Testing** - Once development iteration cycle is deemed complete on a module, the Application Team along with the Business Readiness Team can test the developed application modules for QA and integration testing. Integration testing is a logical extension of unit testing. In its simplest form, two units that have already been tested are combined into a component and the interface between them is tested. Integration testing identifies problems that occur when units are combined. Defects and quality issues are added to backlog feature lists for further development or repair.

- **Data Conversion Design** - Once the application development environments are established and configured properly, the application data base will be deployed. After the application database deployment is completed, the Data Team will move forward on the data conversion. Required conversion scripts will be developed and tested. Creating and stabilizing the scripts may take much iteration.
- **Develop Training Manual** - As part of the new application development, the Business Readiness Team will develop training curriculum focused on training end users and supporting materials required for each class defined in the curriculum. The training materials will be packaged into training manuals which will become an important element of the formal training program. A formal training manual ensures that there is consistency in the presentation of the content of the training program. Another major advantage to be achieved is all training information on skills, transactions, processes, and other information necessary to perform the tasks will be documented in one place. In support of the training objectives, training manuals will be developed for the following situations:
  - Trainees can use the manuals for reviewing the subject after training
  - They allow the trainee to concentrate on and partake in the training during the training session instead of taking detailed notes
  - They serve as reference documents in the work place for current and future employees
- **Training Super Users for Acceptance Testing** - Super Users are lead business support experts and not part of the Project Team. Business Process Owners and Transaction Specialists will train Super Users in order to effectively test the application once it is ready for acceptance testing. This process will validate the application, the acceptance testing, and training materials.
- **Acceptance Testing** - Acceptance testing will include performance testing and mock, live testing with converted data. It is a critical step that must be completed prior to establishing the go live date for the new application. In this stage of the software development, the completed software is tested in a "real world" environment by the intended audience. Some of the types of tests will include security, performance, usability, reliability, availability and scalability. Acceptance test results will be reviewed by management and technical teams to assess any remaining concerns. If there are no significant issues, a go-live date is set, a cutover plan established, and final implementation initiated.
- **Implementation and Support** - In this stage, the actual application deployment and related components will occur. The deployment will occur based on the go live date set by the management team. The post implementation period will address production issues and system stabilization. A production support team will take over the application upon completion of the stabilization period.

## 2.4 Key Phase Milestones and Major Deliverables

Teams	Phase I – Project Initiation Phase	Phase II – Detailed Analysis & Design	Phase III – Development & Implementation
<b>Project Director</b>	Project Team Organization Business Needs & Challenges Project Approach		Project Closure Lessons Learned
<b>Business Readiness Team</b>	Overview of Business Processes & Roles and Responsibilities Key Process Changes <ul style="list-style-type: none"> <li>▪ Required</li> <li>▪ Opportunities</li> </ul> Establish Stakeholder Readiness Strategy: <ul style="list-style-type: none"> <li>▪ Communications</li> <li>▪ Policies &amp; Procedures</li> <li>▪ Risk</li> <li>▪ Training</li> </ul> Identify Business Readiness Teams Develop Detailed Business Process Statement of Work	Communications Plan Executed Schedule & Resource Management Business Readiness Teams Activated Change Management Plan Established Training Class Design & Prototype Application Test Approach Planned Post Production Support Organization Defined	Communications Plan Executed Develop Test Scripts Perform Acceptance Testing Training Materials/Manuals Developed For: <ul style="list-style-type: none"> <li>▪ Transaction Processing</li> <li>▪ Process Management</li> </ul> Train-the-Trainers Completed Training Completed Finalize Contingency Plans Cutover Plan Completed Integration Testing Scripts Run Go Live Check List Help Desk Established Post Implementation Continuous Training Project Closure Activities
<b>Application Development Team</b>	Overview of Application Architecture Development and Responsibilities Project Standards & Procedures Conceptual Case Module Screens Developed	Detailed Application Structure Design Prototype Developed for: <ul style="list-style-type: none"> <li>- Screens</li> <li>- Reports</li> <li>- Forms</li> <li>- Workflows</li> </ul>	Development of Application Modules Using Agile Techniques Fix Module Issues and Defects Perform QA & Integration Testing Completed Integration Assessment Production Application Deployment System Acceptance Testing Completed Stabilize Application After Implementation

<b>Teams</b>	<b>Phase I – Project Initiation Phase</b>	<b>Phase II – Detailed Analysis &amp; Design</b>	<b>Phase III – Development &amp; Implementation</b>
<b>Data Team</b>	Data Architecture Plan	Conceptual Data Model Development Data Conversion Plan Interface Plan Build/Deploy Application Database	Data Conversion Scripts/Programs Development & Data Validation Testing Final Data Conversion Plan and System Cutover Plan Final Data Conversion Interface Design, Development & Testing Cutover Testing System Acceptance Testing Maintain Application Database Post Implementation Monitoring and Support
<b>Application Architecture Development Team</b>	Landscape Architecture Design Application Architecture Development Design Sandbox Environment Identified Identify Tools to Support the Project Project Standards & Procedures	Software & Technical Environment Established Development Environment Established System Administration Procedures Documented Stress/Volume Test Performed	Production and Training Environments Established Post Implementation Monitoring and Support

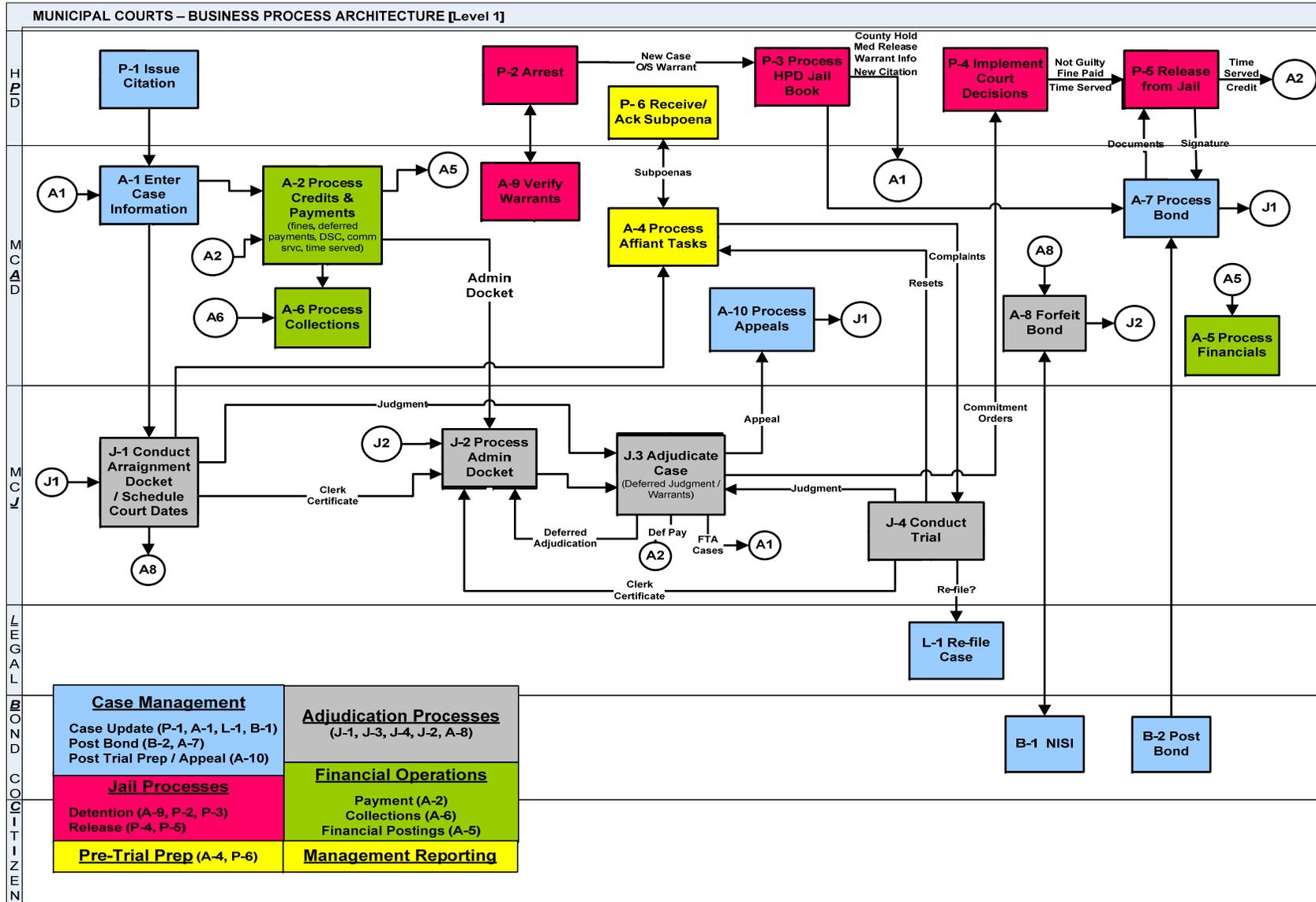
## 2.5 Risk Management Strategy

The Risk Management Strategy for the project will focus on identifying critical issues that could adversely impact the project budget, schedule, or quality of the system, and develop proactive action plans to mitigate identified risks. Efforts to mitigate risks will be the responsibility of the Project Director and Project Managers for the four teams reporting to the Director. The critical success factors identified in Section 1.7 provide the basis for developing the first version of a Risk Management Plan because they identify the major issues that could impact the success of the project. During the organization process for Phase II - Detailed Analysis & Design, the Project Director will translate the critical success factors into an expanded Risk Management Plan.

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## **3.0 Process Architecture**

# 3.0 Process Architecture



### 3.1 Overview of Courts Processes

**Process Architecture** maps high-level activities performed by key stakeholders and the workflow among the activities. Ten sub-processes have been identified that define the core functions driving the design of the New Courts System. Based on the first round of reviews, it has been determined that the administrative, judicial, and legal organizations have solid processes that can provide a foundation for development of the New Courts System without requiring a major re-engineering process. The biggest change will focus on eliminating manual controls established to identify data abnormalities and prevent an inappropriate action on a case. In addition to this change, we have identified the following opportunities for improving the court operations:

- 1) Scan documents once and attach the image to multiple cases
- 2) Use an automated interface from HPD's Automated Finger Printing System (AFIS) to capture arrest data and use the AFIS data to identify the correct person when a bond is being posted for their release
- 3) Eliminate need for judges to calculate the amount of fines and fees and provide judges with current data on time served
- 4) Redesign processes related to issuing FTAs and Warrants and provide system capabilities to simplify the way judges issue the orders
- 5) Automate the bond refund process
- 6) Reduce wait time for attorneys requesting multiple resets and bondsmen posting multiple bonds by providing better processes and system capabilities to automate manual activities

The second level of detail for the Process Architecture is presented in Appendix A and the following descriptions provide a brief definition of the ten sub-processes that comprise the second level process maps:

- 1) The **Case Update** process involves the activities that process the citation, create the case, and process bond forfeitures. As we drill into greater detail, this process will expand to cover posting follow-up documents such as DSC completion forms to the case.
- 2) **Post Bond** defines the activities associated with bonding companies and individuals posting bonds. This process ties into the Release sub-process and can create a civil case if the defendant defaults on a surety bond.
- 3) The **Post Trial Prep/Appeals** covers activities when a defendant submits a motion for retrial and appeals to the County Court.

- 4) Jail **Detention** covers comparing information sent by officer for verification. Book and schedule to a court docket. Assess applicable sentencing requirements. Capture defendant's signatures on all applicable forms and generate resulting court transaction documents. Provide accessibility to HPD of resulting court transactions.
- 5) Jail **Release** defines the steps required to release a detainee prior to adjudication and after a commitment order has been issued. This process has tight linkage with the post bond sub-process because that is the primary means of obtaining a release before case adjudication.
- 6) **Pre-Trial Preparation** involves identifying all parties associated with a case, preparing the complaint, issuing subpoenas, and reviewing citation issuers/witnesses readiness to testify.
- 7) **Adjudication** includes assessing the readiness of prosecution and availability of witnesses, conducting the arraignment or trial, issuance of the judgment, updating case accordingly, and capturing the defendant's signature on all applicable forms and disseminating the resulting court transaction documents.
- 8) **Payment** activities cover acceptance of payments for fines and fees, bonds, and posting of surety bonds. These activities can be performed at the Public Service Counter (PSC) and in the mail room. Also, payments for fines and fees can be accepted via Texas Online
- 9) **Collections** maps the processes involved in contacting citizens who have delinquent cases and providing courtesy calls to citizens who have not paid their fines at key points during the grace period allowed under a deferred payment option.
- 10) The **Financial Posting** process manages the daily close process, creates the entries to Courts' sub ledgers, and generates postings for the general ledger.

The New Courts System must support the Courts' activities defined in Process Architecture. The Case Lifecycle is embedded throughout these processes and the New Court System must effectively control the flow of each case through the various options that exist while a case is moving through the initiation process, being adjudicated, tracked for compliance, and finally closed. An overview of the Case Lifecycle is depicted in Appendix D. Providing the ability to change paths within the Case Lifecycle is a critical requirement for building a system that meets the Vision for Success. For example, when a judge decides to "Undo" an existing judgment, they are moving the case from one point in its life cycle back to a new decision point that redirects the case down a new path on the Lifecycle. The system will need to provide the capability to inactivate the current set of transactions supporting the judgment that

is being “undone” and initiate the transactions required for the new judgment. The following table lists the types of “Undo’s” that need to be handled by the New Courts System.

Stakeholders	Requirements for Transaction Reversals/Edits
Prosecutors	<ul style="list-style-type: none"> <li>▪ Recommendations before judge’s action</li> <li>▪ Ability to make changes to direct file up to the point when the complaint is sworn (Web-based functionality)</li> <li>▪ Ability to re-file a case using the data captured for the original case</li> </ul>
Judges	<ul style="list-style-type: none"> <li>▪ Remove judgment and account for any payments that have been applied under judgment</li> </ul>
PSC – Leads/Supervisor/Management	<ul style="list-style-type: none"> <li>▪ Reverse misapplied payments               <ul style="list-style-type: none"> <li>➢ Wrong Case</li> </ul> </li> <li>▪ Reverse payments – case status               <ul style="list-style-type: none"> <li>➢ Paid in full - Pre and Post adjudication</li> <li>➢ Partial payments on pre-judgment cases</li> <li>➢ NSF</li> <li>➢ Charge backs</li> </ul> </li> <li>▪ Change payment type code (credit card, money order)</li> <li>▪ Entered-In-Error (EIE) process</li> <li>▪ Reverse event and future settings</li> <li>▪ Reverse misapplied DSC and community service completions</li> <li>▪ Reverse incorrect entry</li> <li>Reverse money room transactions</li> <li>▪ Reverse vouchers</li> </ul>
MCAD- Court Services Q&A	<ul style="list-style-type: none"> <li>▪ EIE process</li> <li>▪ Reverse event and future settings</li> </ul>
MCAD - Warrants	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>
MCJ	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>
Court Clerk	<ul style="list-style-type: none"> <li>▪ Reverse event and future settings</li> </ul>

Docket processing is another key element that is required to support these business processes. The New Courts System will automate processes required to assign each case to the correct docket. It will also provide the judge with a streamlined view of case information needed to process a specific type of docket and enter the appropriate judgment/action. Appendix E provides an inventory of the current types of dockets and a summary of the results/actions that will be taken for each type of docket.

Once a judge issues a judgment or allows the defendant more time to demonstrate compliance, the New Courts System will track the citizen's compliance activities and assign the case to the appropriate docket when the due date occurs. The following table summarizes the types of compliance activities and actions required for non-compliance.

### 3.2 Overview of Compliance Requirements for Case Adjudication

Judgment	Compliance Requirements	Action for Non-compliance
Defensive Safety Course (DSC)	Pay fees based on type (i.e. mandatory, discretionary, school zone) Complete DSC and provide documentation Provide certified copy of driving record Submit affidavit	Must appear for show-cause hearing Failure to appear for show-cause hearing will generate a Capias ProFine
Registration, Insurance, Inspections, and Drivers License (RID)	Provide documentation Pay post-compliance fees Appear as required	Issue Capias ProFine, if there is a judgment on case Issue warrant, if no judgment on case
Failure to Appear (FTA)	Appear for arraignment, trial, or other scheduled dockets before judgment is issued	Create FTA case Issue warrant
Deferred Adjudication	Post bond Pay fees Comply with judge's orders	Apply proceeds of bond applicable fines and fees
Deferred Payment	Pay fees and fine within timeframe allowed by judge, usually 90 days Late fees will be assessed based on State laws, but collection fees will be deferred	Issue Capias ProFine Assess late fees and collection fees
Community Service	Complete number of hours per judgment	Failure to complete service will result in issuance of Capias ProFine Late fees and collection fees assigned

Judgment	Compliance Requirements	Action for Non-compliance
Juvenile	Complete assigned community service and awareness training programs	When defendant reaches seventeenth birthday, schedule case on juvenile docket/notify defendant of required appearance If defendant appears, judge will enter judgment If defendant fails to appear, process FTA
Truancy – Minor Note: The business rules are still being developed	Complete assigned community service and awareness training programs	When defendant reaches seventeenth birthday, schedule case on juvenile docket/notify defendant of required appearance If defendant appears, judge will enter compliance orders If defendant fails to appear, issue warrant
Truancy – Parent Note: The business rules are still being developed	Complete assigned community service and awareness programs Pay fine & fees	Issue Capias ProFine, if there is a judgment on case Issue warrant, if no judgment on case
Fine and Fees	Pay fines and fees within required timeframe Pay with a valid check or credit card Do not dispute charges on credit card statement	Assessment of late fees and collection fees When case becomes delinquent either: Issue Capias ProFine, if there is a judgment on case, or Issue Warrant, if no judgment on case If bank returns check for insufficient funds (NSF): <ul style="list-style-type: none"> <li>➤ Charge NSF Fee</li> <li>➤ Apply accounting rules for handling accounts receivables to any outstanding NSF accounts greater than 30 days</li> <li>➤ Prohibit payment by personal check</li> </ul> If credit card company disputes charge: <ul style="list-style-type: none"> <li>➤ Reinstate case to status that existed on the day of payment, including warrants/Capias</li> </ul>

Judgment	Compliance Requirements	Action for Non-compliance
		ProFine ➤ Assess any accrued fees/late charges
Bond Forfeitures	Appear for assigned docket or file answer within 10 days after FTA	Issue warrant, if no conditional plea on bond Schedule on Administrative Docket for judge to determine disposition of funds Apply cash bond to fees and fine per bond agreement Add late fees and collection fees on appropriate dates Initiate NISI hearing for surety bonds

### 3.3 Stakeholder Readiness Strategy

The success of this project depends on two critical components. First, the New Courts System must be developed to effectively support all of the Courts' processes. Second, Court personnel must be prepared to perform their jobs using the New Courts System. The achievement of these two objectives will require specific Court personnel to assume a lead role in defining the business processes, designing the "user" interfaces, and performing the process application acceptance testing. The Stakeholder Readiness Strategy outlines the approach that will be used to establish leadership roles for court personnel to ensure that the project is driven by a business focus rather than a technology focus. These leaders will also be conducting in-depth training, and guiding the balance of the Courts' personnel through a transition to the New Courts System. This strategy is designed to empower the Court personnel using the system to take ownership in the project and its results.

System ownership must occur at two levels within the Courts organization. The management level must become proficient with the processes and controls supported by the New Courts System. They have to understand how a series of transactions support a specific Court process and develop the ability to troubleshoot problems at that process level in order to provide effective direction to their staff on how to handle the exceptions to the process. The individual contributors who perform specific jobs (e.g. judges, court clerks, etc.) must develop expertise with the individual transactions associated with their job assignments. They must have the ability to handle all aspects of the transactions in both normal and abnormal situations. The Stakeholder Readiness Strategy must ensure that both managers and individuals are ready to use the New Courts System on the first day of implementation.

Achieving a high level of readiness at both the Process Management and the Transaction Execution levels will require the assembly of three groups of Court personnel who will assume leadership roles in the project. These groups are:

- Business Process Owners
- Transaction Specialists
- Super Users

### **3.3.1 Roles of Business Process Owners**

A Business Process Owner has knowledge of and can explain how a particular process works in the New Courts System. Additionally, this person is an integration specialist having a big-picture management perspective which is cross-divisional. The Business Process Owner will set the policies and procedures for particular processes using an established policy and procedure strategy. The Business Process Owner is the ultimate decision maker for that Court process. This person is capable of and has experience at consensus building. A Business Process Owner accepts the responsibility to make these types of decisions and they have a proven track record of doing it in the past. While involved in the overall training strategy for a project, the Business Process Owner is specifically involved in the training of Transaction Specialists.

### **3.3.2 Roles of Transaction Specialists**

Transaction Specialists are individuals who have expert knowledge of one or more business transactions which may cross one or more business processes. These individuals will play a key role in the design of user interface and the reports used in conjunction with transactions. They occupy a role of “go-to” person through the entire development life cycle of the identified transaction including design, testing, documentation, and training. In addition to supporting the Business Process Owners, Transaction Specialists will be involved in most, if not all, of the activities identified within the Business Readiness Team.

Business Process Owners and Transaction Specialists will initially be members of the Process Team within the Business Readiness Team. They will work together from the start of the project, devoting 100% of their time, as part of the Process Team and assist in the application design in conjunction with the Application Team. They will establish process test standards and develop test scripts to meet those standards. Once an application process has been tested, these group members will sign off on the test results. At this point, Business Process Owners and Transaction Specialists will transition to roles as members of the Training Team and begin the process of training the Super Users. This process of transitioning from Process Team to Training Team will repeat as new application process components are developed and tested. Ultimately, these Process/Training Team members will be assuming leadership roles in court operations after implementation.

### **3.3.3 Roles of Super Users**

Super Users are individuals identified as leaders within a unit of the organization proficient in the processing of transactions. They occupy an important role outside the formal project development structure of the Business Readiness Team for their particular organizations to assist in acceptance testing of the application processes previously reviewed by the Business Process Owners and Transaction Specialists. They will be trained in acceptance testing by the members of the Business Readiness Team and will provide feedback for possible corrections to be made to the application process components prior to formal acceptance. Once an application process component has been formally accepted, Super Users will join Business Process Owners and Transaction Specialists and serve as trainers to help expedite the learning cycle.

Business Process Owners, Transaction Specialists, and Super Users will be communicating realistic assessments of the project processes developed both during and after acceptance. It is expected that two of the three participants in this process of formal acceptance testing, usually the Transaction Specialists and the Super Users, will become coaches on implementation day.

## **3.4 Policy & Procedures Strategy**

Documented policies and procedures will play a key role in both the training process for, and the daily operations of, the New Courts System. Development and training for policies and procedures that conform to the New Courts System will be the responsibility of the teams from the Business Readiness Team and this strategy defines the approach that will be used in both the development and training efforts.

The development of the New Courts System needs to be based on Best Practices recognized by national court organizations and experiences learned by other court operations. However, the existing Court Policies have been established through Texas State Law, Ordinances passed by the City, Executive Orders established by City Mayors, and Administrative Procedures established in accordance with the City Code of Ordinances. It is possible that requirements established through a legislative process could block the implementation of new practices that could improve Court operations. To minimize the impact of existing laws on the New Courts System design, during the early stages of the Detailed Analysis & Design Phase, the Process Team within the Business Readiness Team will take a proactive approach. All existing Court policies will be reviewed to determine which ones are supported by legislative action and which policies need to be changed. Also, the Team will develop an inventory of Best Practices to identify needed changes and to engage the City Legal Department in determining how legislative directives could impact the potential changes.

Court procedures will be linked to the detail process maps developed during the Detailed Analysis & Design Phase. These procedures will document key steps required to perform a process and adhere to the controls embedded in the process. Links between the process

procedures and training material, describing how to enter transactions into the system, will be developed. Then, desk manuals that describe how to perform specific jobs will be developed from the process documentation, and personnel assigned to those jobs will receive training based on the desk manual for their specific jobs.

### **3.5 Communications Strategy**

The Communications Strategy for this project will sketch out: who, what, when, where and how regarding information distribution. This strategy will specify the unique requirements for information distribution among all stakeholders affected by this project. The intent is to ensure that the established communication processes will build credibility and success for the project by insuring transparency of information, while strongly encouraging feedback. A structured flow of information will assist in identifying events, opportunities, risks, and needed actions during the project life cycle.

The Communications Strategy must account for all stakeholders for the project, the types of communication to be used, and the objectives of these communications. Stakeholders can be placed in either an Internal or an External group. Internal Stakeholders have been engaged to define the needs of the Court, give input into the processes that must be included within the New Courts System, and to validate the applications developed as meeting the process needs as defined. This Internal Stakeholder group is further divided into the Steering Committee (City's Chief Information Officer, MCJ Director, MCAD Director, City Attorney Legal and HPD Captain), the City and a court personnel group (Court Employees.) The objective of the Communication Strategy for Internal Stakeholders is not just confined to the back-and-forth transfer of information to complete the project life cycle. Additionally, it must foster a level of confidence that can be expressed by all members of this group that the needs of the Court are being met and that group members share a level of ownership in the process.

External Stakeholders are represented by a Court users group (Bondsmen and Defense Attorneys), the Public, and the Media. These stakeholders represent the users, the consumers, and the observers of the New Courts System. The information delivery types will vary greatly and to some extent be driven by the project time-line. Most of these communications will be supported by the Business Readiness Team Manager possibly in conjunction with the Public Relations officer for the City.

An effective Communications Strategy which takes the needs of both of these groups into consideration will promote the acceptance of the New Courts System, the perception of ownership amongst the various Court groups who will champion its use, and a sense of fiscal responsibility in the use of public funds.

### 3.6 Training Strategy

Stakeholder	Delivery Vehicles	Objectives
<b>Internal</b>		
Chief Information Officer Municipal Court Judicial Department (MCJ) Municipal Court Administration (MCAD) The Prosecutor's Office (Legal) Houston Police Department (HPD)	Meetings, Project Reports, Phone Calls, E-mail	Have the Steering Committee take ownership of the project and display a readiness to resolve issues in a timely manner. To provide relevant information for Steering Committee Meetings that are decision making sessions to facilitate continued program development, and not just status reports. Build confidence in the Project Team and the intended results of the project.
Court Employees	Training, Desk Manuals	Create confidence in Project Team assembled and attain knowledge of and proficiency in New Courts System
City – Mayor & Council	Meetings, Reports, Phone Calls, Correspondence, E-mail	Build confidence in project and secure approval of project funding
<b>External</b>		
Defense Attorneys Bondmen	Meetings, Project Reports, Phone Calls, E-mail	Attain buy-in by engaging in design issues that will impact their ability to serve their clients
Public	Newsletters, Brochures, Speaking Engagements, Special Events	Increase public awareness and promote good government stewardship
Media	Press Conference, Press Release, Feature Articles	Foster positive press coverage and maintain effective communications when issues develop

The Training Strategy for the New Court System will focus on three specific outcomes.

- Building proficiency with Court Management personnel so that they can handle special situations and exceptions. To do this, the training program must provide an effective overview of how the New Courts System interacts with the Courts' business processes
- Building proficiency in individuals so that they can perform their jobs. This will be accomplished by providing effective training on the New Courts System and by developing training tools like Procedure & Desktop Manuals and User Documentation.

- Building a “coaching” team that can train the individual contributors through the implementation phase. Business Process Owners and Transaction Specialists will be used to build a corps of Super Users.

To create these outcomes, the training process will be based on the following steps:

- Providing each trainee with training in a classroom environment using training materials and structured exercises designed for hands-on use of the New Courts System.
- Requiring each trainee to pass a proficiency test before providing them with a log-on ID.
- Leading the Management Team through a “conference room” walk-through for each of their key business processes.
- Finally, conducting a “dress rehearsal” to simulate process transactions completed with handoffs to next-in-line processes. This exercise will replicate a “day in the life” of the Court with actual expected scenarios.

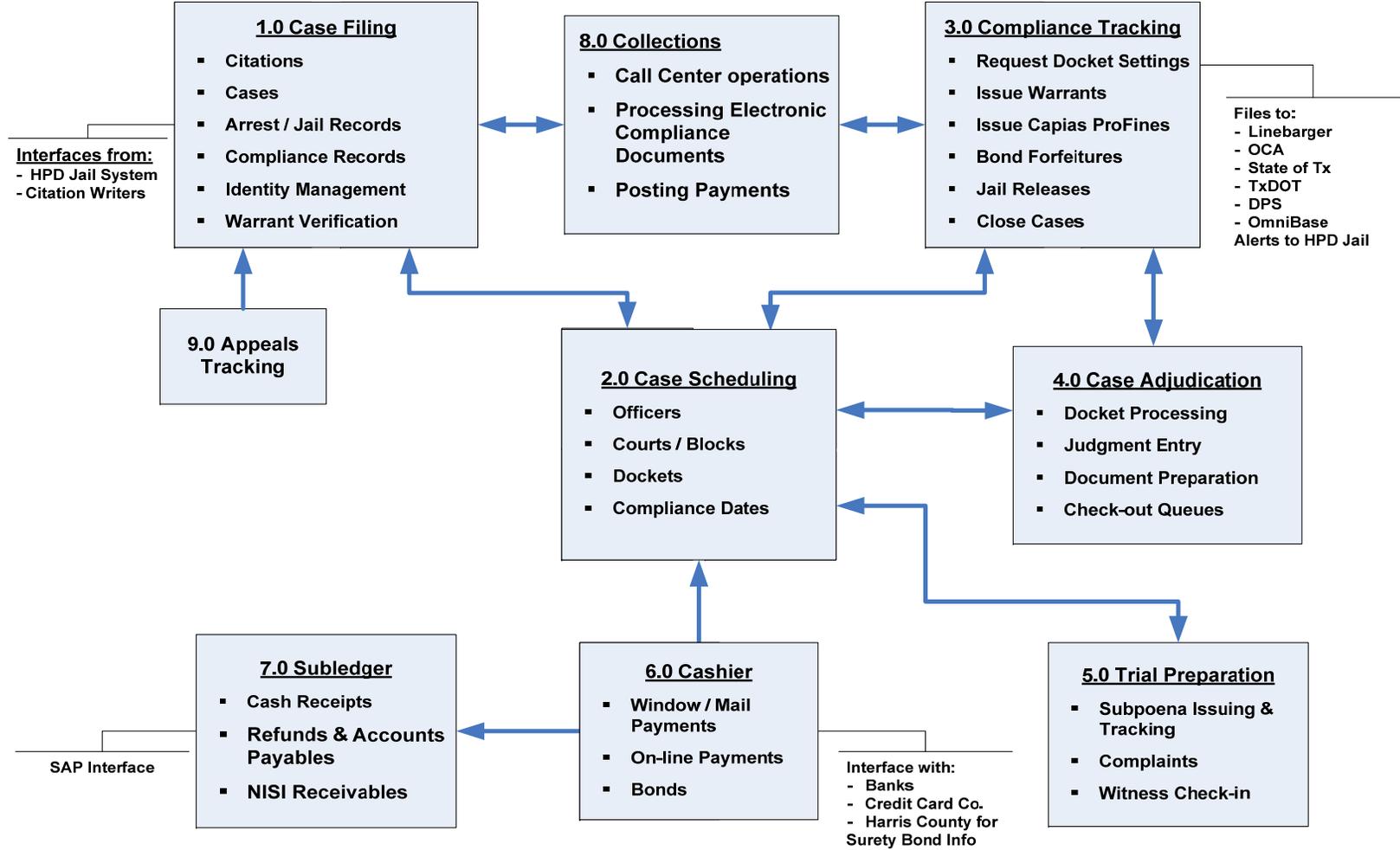
This classroom training will be structured to address the needs of two distinct groups - management and individual contributors. The Business Process Owners, with the necessary support of Transaction Specials, will deliver the management training that focuses on: developing a working understanding of the how each business process works within the New Courts System, key controls that have to be performed to maintain the integrity of the System, and steps required to handle exception situations. Transaction Specialists will team with Super Users to deliver training for individual contributors. Training will include the hands-on experience needed to process each type of transaction handled by the New Courts System. Training classes for both groups will be delivered in person, in classes of 12-16 individuals, in a lecture format with exercises for student participation. Classrooms will be furnished with appropriate computer equipment to simulate a workstation environment. All persons trained will be required to pass an established level of proficiency on the New Courts System. The focus of this training will be exclusively on the capabilities of the New Courts System and not on basic computer knowledge. It will be the responsibility of department heads to see that all employees sent to training on the New Courts System have passed a preliminary proficiency test of basic computer skills (i.e. familiarity with programs like Microsoft Word™ and Excel™ and transactions such as cutting and pasting, navigating with a mouse, etc.).

The training materials and programs will be developed with the intent that they will be used for all post-implementation training programs. Upon completion of the training phase, all training materials will be transferred to the Courts personnel so that they can maintain an ongoing training program for new employees as well as provide follow-up training to experienced employees.

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## **4.0 Applications Architecture**

# Municipal Courts New Courts System Conceptual Applications Architecture



## 4.0 Applications Architecture

### 4.1 Overview of Applications Architecture

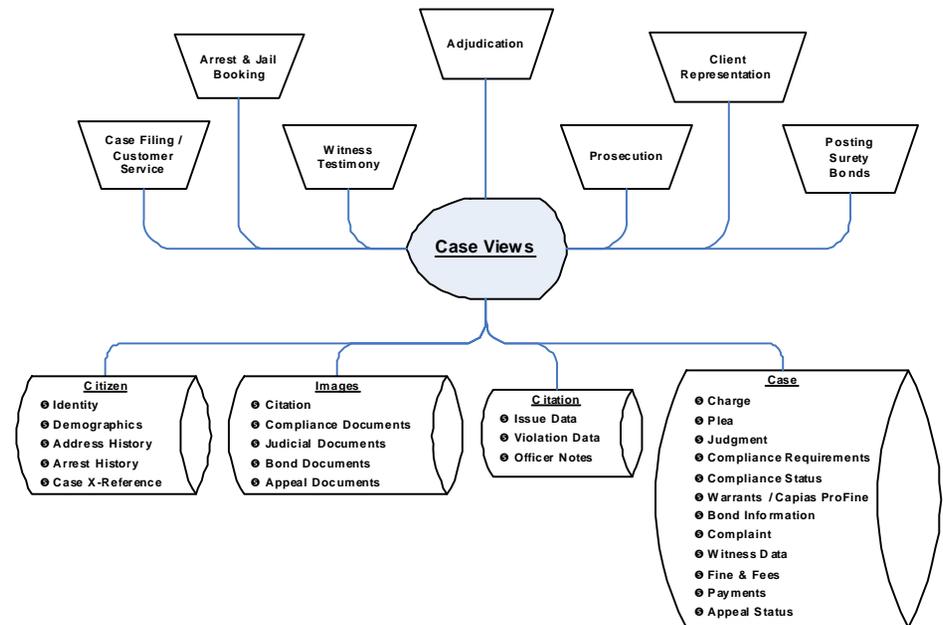
**Applications Architecture** defines nine modules that will be used to initiate, adjudicate, manage compliance, and dispose of cases handled by the Courts. The design of the New Courts System must focus on eliminating errors when the transaction is created; minimizing citizen wait times in the court room and at the payment window; and, minimizing manual work, while maximizing data integrity. The development of these modules needs to be driven by the following key design concepts:

- 1) Provide a tightly integrated flow of a case through the life cycle defined in the Process Architecture and ensure that updates to a case are driven by events as they occur in the System. For example, when a cashier accepts payment for a bond, this event triggers setting the case for the appropriate docket, inactivating outstanding warrants, and issuing a release order to the jail. Processing this series of transactions with no manual intervention requires tight integration among the Cashier, Case Scheduling, and Compliance Tracking modules. The entire system must be built with this level of integration and automated event management.
- 2) Workflows need to be designed to support roles defined in the system so that the user interface operates independently from the Applications Architecture. For example, if a collections agent needs the ability to update the case based on their conversation with a citizen, they need to be able to easily access the payment screen for processing a payment and attach electronic documents (e.g. DSC request) without having to “jump” between modules.
- 3) Workflow and document management tools need to streamline processing of external documents and trigger specific events when a case is updated during document processing activities. Also, these tools need to provide linkage of a document image to multiple cases, e.g. a citation with multiple violations.
- 4) Legal documents need to be generated quickly, using the format required for each violation type and stored electronically.
- 5) Business rules need to be encapsulated in a single module, data validation needs to occur when the transaction is entered into the system, and manual overrides need to be restricted to a limited number of highly experienced users.
- 6) A transaction history must be maintained on all cases, yet the system needs the flexibility to expunge cases in accordance with judicial requirements.
- 7) Management reporting will be handled via Business Intelligence tools that operate independently from the transaction database.

- 8) Creating and changing fees and fines will be handled through master table updates, which can be implemented by business personnel.
- 9) If feasible and cost-effective, develop tools for creating new docket types (e.g. hearings for auto-towing) and making required changes in business rules, so that business personnel can make changes without requiring programming assistance.
- 10) Operate around a single case screen, capable of displaying all information related to the case in an easy to use format, and variations of the case screen that restrict the view of the case data based on the type of transaction being performed or the role of the individual viewing the case. Also, users need the ability to enter a series of case numbers and initiate batch processing for a specific type of transaction, e.g. bond postings for attorneys.

Many of the court processes will be initiated from a case screen that provides access to all of the details associated with a specific case. This screen will provide linkage to images of the documents associated with the case so that they can be viewed in conjunction with the case records. The opening view will display the current information for the case along with a summary of key events (e.g. court appearances) that have occurred since the case was filed. In effect, this screen will provide the primary research tool that will be available to all stakeholders involved in the case.

**One Case Screen with Custom Views Based on Role**



There will be no restrictions on the viewing of data associated with a case, except for privileged information such as the prosecutor's recommendations. So, an HPD officer, a prosecutor, a judge, or a defense attorney will have the ability to see the same information about the case except for the prosecutor's recommendations or other privileged information.

However, there will be strict limitation on changes to case information. The security function will restrict the ability to make case changes based on the role assigned to the user ID. For example, a person with the judge role may have the ability to change a judgment

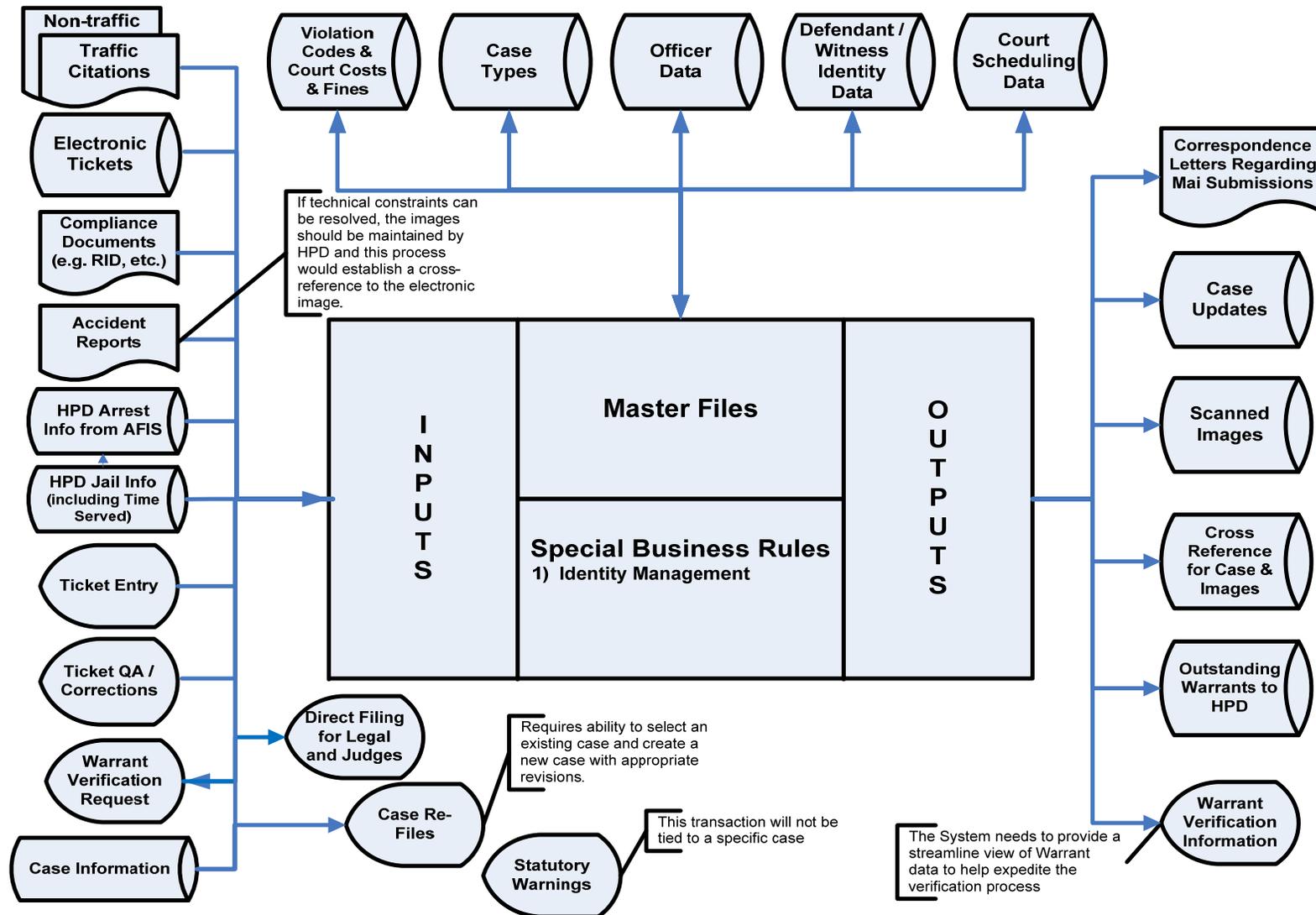
on a case that has not been closed, but changing a judgment on a case that has been closed may be restricted to the presiding judge role. HPD officers will need access to the case to prepare for their testimony, but the system must prevent them from making changes to any of the case records.

Developing a single case screen that supports the viewing requirements for all parties involved with a case will create significant challenges. But, the development of a screen that works for all parties will foster better communications because all parties are working from the same view of information and it will streamline court operations by allowing many of the users to perform their jobs without having to develop expertise in multiple screens.

The following pages provide an overview of the functionality anticipated for each module and a graphic that depicts key inputs, outputs, business rules and master data required by the module.

## 4.2 Module Functionality Descriptions (Level 1)

### 1.0 Case Filing Module



#### **4.2.1 Case Filing Module (CFM)**

This module performs eight key functions:

- 1) Initiate a case based on data provided on a citation and link case with other cases associated with the defendant
- 2) Initiate a case based on orders provided by a judge (e.g. FTA)
- 3) Initiate a direct file case entered by either a judge or the Legal Department and link the case with other cases associated with the defendant
- 4) Handle re-filing cases
- 5) Process supporting documentation (e.g. evidence or an accident report) associated with the citation
- 6) Process arrest and jail documents provided by the Houston Police Department Jail Unit
- 7) Update the case with status changes based on the receipt of new documents (e.g. requests for case resets or documentation showing compliance with a judge's orders)
- 8) Respond to warrant request by a law enforcement agency

The case initiation process uses three sources of inputs: manual citations, electronic citations, and orders issued by a judge. Manual citations are issued by enforcement agencies for Class C Misdemeanor traffic and non-traffic violations. Currently, the Houston Police Department (HPD) issues the majority of citations processed by the Houston Courts. In addition to HPD, the City Health Department issues citations for health violations, the Neighborhood Protection Corps (NPC) issues citations for property related violations, and non-City enforcement agencies issue citations for both traffic and non-traffic violations. The second source of citations is generated by Electronic Citation Writers, which are used by 125 HPD officers to issue citations for high-volume offenses. The Citation Writers provide electronic data that is used to automate the generation of a citation. And, the third source of citations is initiated within the Courts system when an individual fails to appear for a court event and the judge issues a Failure-to-Appear order, which may have a NISI case filing if a surety bond was posted for the case.

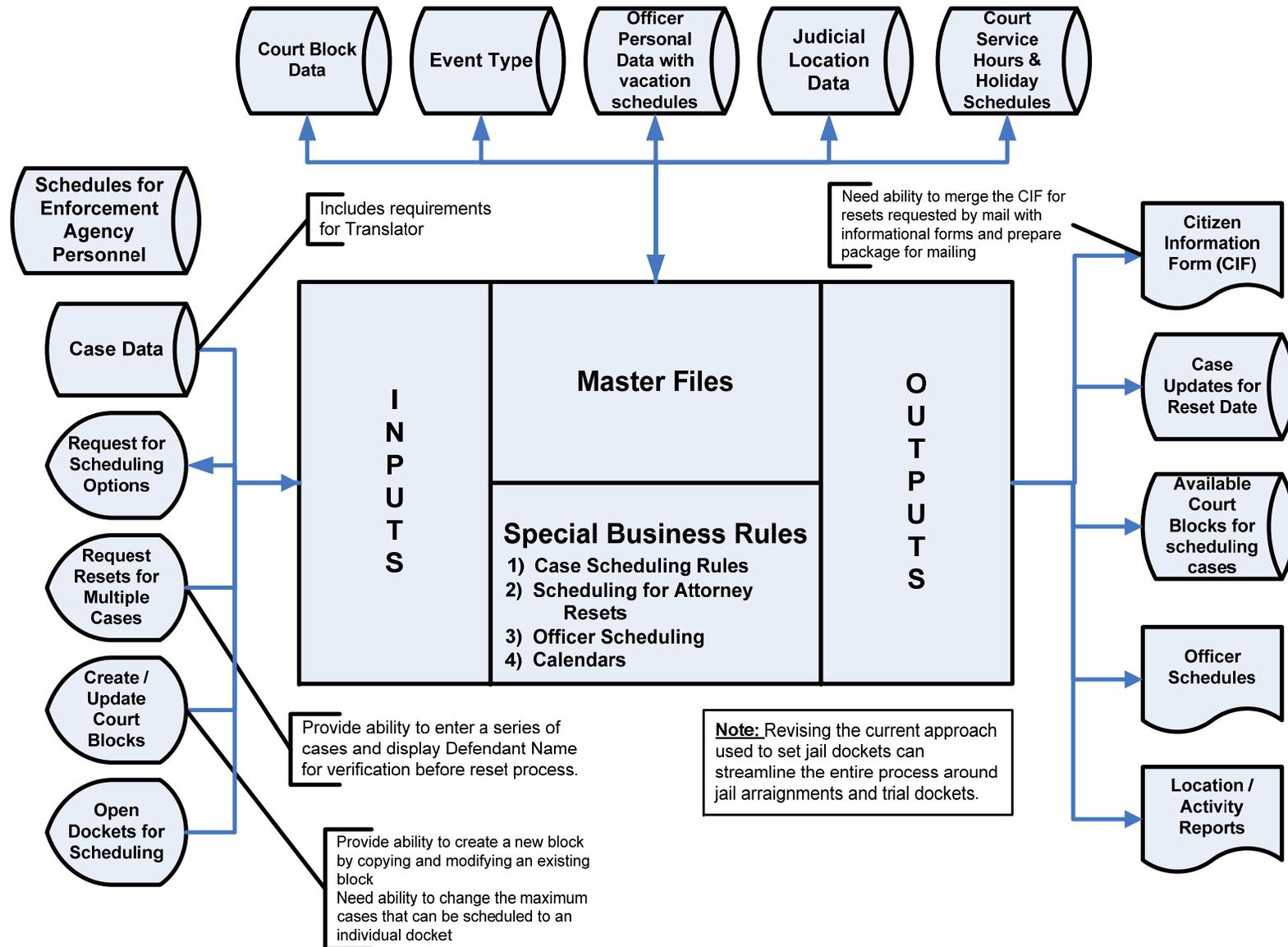
The CFM has to provide highly reliable processes for capturing citation data and supporting documents, creating a separate case for each violation noted on the citation, identifying relationships between old and new cases (based on name, sex, DOB etc.), and maintaining a cross-reference between an electronic image of each citation and each case associated with that citation. Errors during the case initiation process can result in the wrong person being accused of a violation or require the dismissal of a case. To minimize errors, this module has to support a quality assurance workflow process. The process helps streamline the identification and correction of errors before a case moves beyond the case initiation process, based on a pre-determined set of business rules. Also, the document management features of this module should provide the functionality required to expunge cases upon orders by a judge and maintain

case information in accordance with a state government ordinance, which currently requires the retention of closed cases for 5 years from the offense date.

When a police officer stops a person for violations, they submit the vehicle plate number and the driver's license details, using an in-vehicle Mobile Data Terminal or laptop computer, for a Warrant Verification search. Both HPD and MCAD are responsible for performing this search. When MCAD receives an electronic request, DIM will use information provided by the officer to search the warrants database. If there are matches, MCAD personnel will verify that the warrant is still active. Finally, if the person is arrested, HPD will perform a booking process using their AFIS System and provide the Courts with an electronic file containing the booking information. When the system receives this information, it should: initiate a workflow process that allows the user to accurately identify all the related cases for that prisoner, create new cases if new citations have been issued, set the cases on the next available Jail Docket, and clear the outstanding warrants associated with the cases tied to the arrest. Also, the system must use information provided by this electronic feed to track time served, update the case status when a prisoner is transferred to another jurisdiction or released for medical reasons. (Note: The interface with the HPD Jail System is complex and requires a complete redesign.)

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## 2.0 Case Scheduling Module



#### **4.2.2 Case Scheduling Module (CSM)**

The Case Scheduling Module (CSM) handles all activities associated with scheduling:

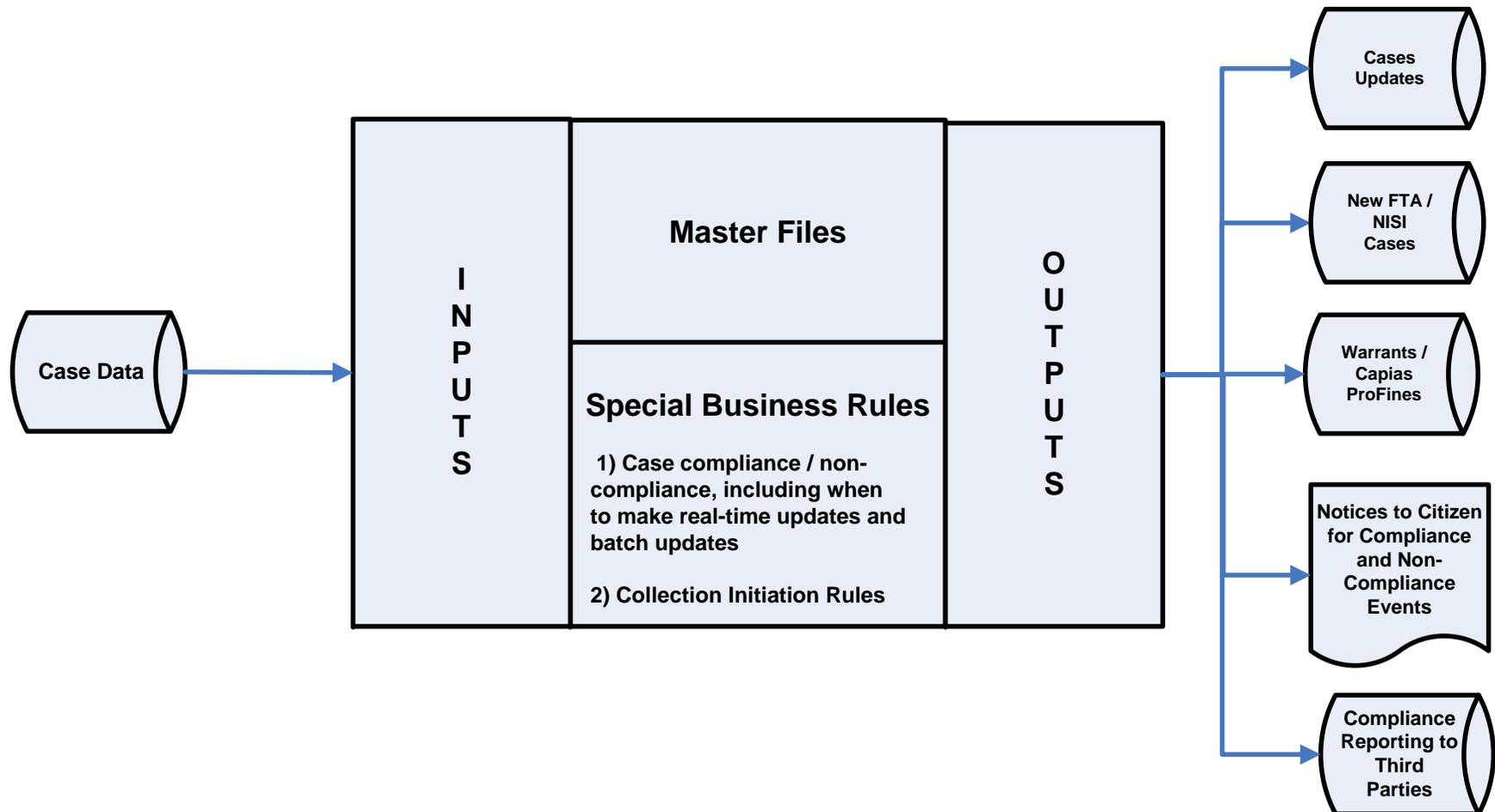
- 1) All citation writing personnel for predetermined court dates
- 2) Blocks, which define the case types assigned to each court room for a specific time slot. Defining the block includes setting limits on the number of cases that can be assigned to a block.
- 3) Dockets which authorize the system to schedule cases to blocks on a specific date
- 4) Cases to a docket when an event occurs (e.g. case requires an arraignment, trial, or administrative attention, etc.) based on a set of business rules that need to be defined during the Detailed Analysis & Design Phase of the project.
- 5) Setting required compliance dates when a judge issues Compliance Orders

The following events within the Courts process can trigger a docket scheduling process when:

- 1) The quality assurance process releases a new case for scheduling to an arraignment docket. CSM will use either the court date assigned by the officer when the citation was issued or the officer's scheduled date for citations without a court date.
- 2) A judge resets a case during the adjudication process and the case needs to be rescheduled within the number of days specified by the judge.
- 3) A judge issues a compliance order (e.g. approves Defensive Driving or provides time to provide proof of insurance), which will trigger a case reset either for a specific date base on State law or a date specified by the judge.
- 4) The Compliance Tracking Module determines that a person has either complied with a judge's orders or time has elapsed and a non-compliance action is required.
- 5) A payment has been made without a judgment and a judge has to enter a judgment prior to closing the case.
- 6) A person has been arrested on either a warrant or Capias ProFine and needs to appear before a judge. This will trigger special scheduling rules for jail dockets.
- 7) A person files a motion for new trial or an appeal and the case has to be set for a docket based on timelines defined by the State.

When a module saves an update to a case and the update triggers a scheduling event, CSM will perform the appropriate scheduling process, update the case record with the new date, and generate a Citizens Information Form, if required. Before CSM can schedule a case on a docket, the officer who issued the citation has to be set-up in the system and blocks need to be open. Officers are assigned court appearance dates based on a manual process used to balance workload among the court rooms and available for court session hours. HPD will provide a daily file identifies new officers and scheduled days-off for existing officers so new officers can be set up in CSM and the scheduling algorithm can avoid scheduling trial dates when an officer cannot appear. Business rules for opening dockets will need to be defined.

### 3.0 Compliance Tracking Module



### **4.2.3 Compliance Tracking Module (CTM)**

The Compliance Tracking Module (CTM) sets up compliance requirements for a case when a judge issues an order related to a case and the module evaluates activities (or lack of activity) to determine if the person has complied with the judge's orders. CTM must be able to track the following orders:

- 1) Assessment of fines and fees – Compliance will be determined by payment date set by the judge and non-compliance will result in the issuance of a Capias ProFine, as well as the imposition of the appropriate late fees.
- 2) Compliance with judgments that allow non-monetary payment of fees and fines such as completion of community service hours (failure to comply results in the issuance of a Capias ProFine) or time served in jail
- 3) Approval of alternative compliance options, i.e. DSC (Failure to comply will initiate a Show Cause order) or deferred adjudication (Failure to comply will create a bond forfeiture.)
- 4) Issuance of warrants for Failure to Appear citations and revocation of the bond, if one has been posted for the case
- 5) Case resets to allow additional time to provide proof of compliance (e.g. Proof of Insurance)
- 6) Set the Case for trial, which requires posting of a bond and appearance for the trial to avoid issuance of a warrant for arrest
- 7) Release from jail after properly posting a bond and agreeing to appear at the schedule docket. (Note: This is an administrative process that is performed without a specific order.)
- 8) Extensions, which will be triggered by a judge changing the due date in the Adjudication Module
- 9) Suspended warrants on juvenile cases – When the juvenile turns seventeen, CTM will set the case for a special juvenile docket
- 10) Compliance with Truancy requirements for both child and parent

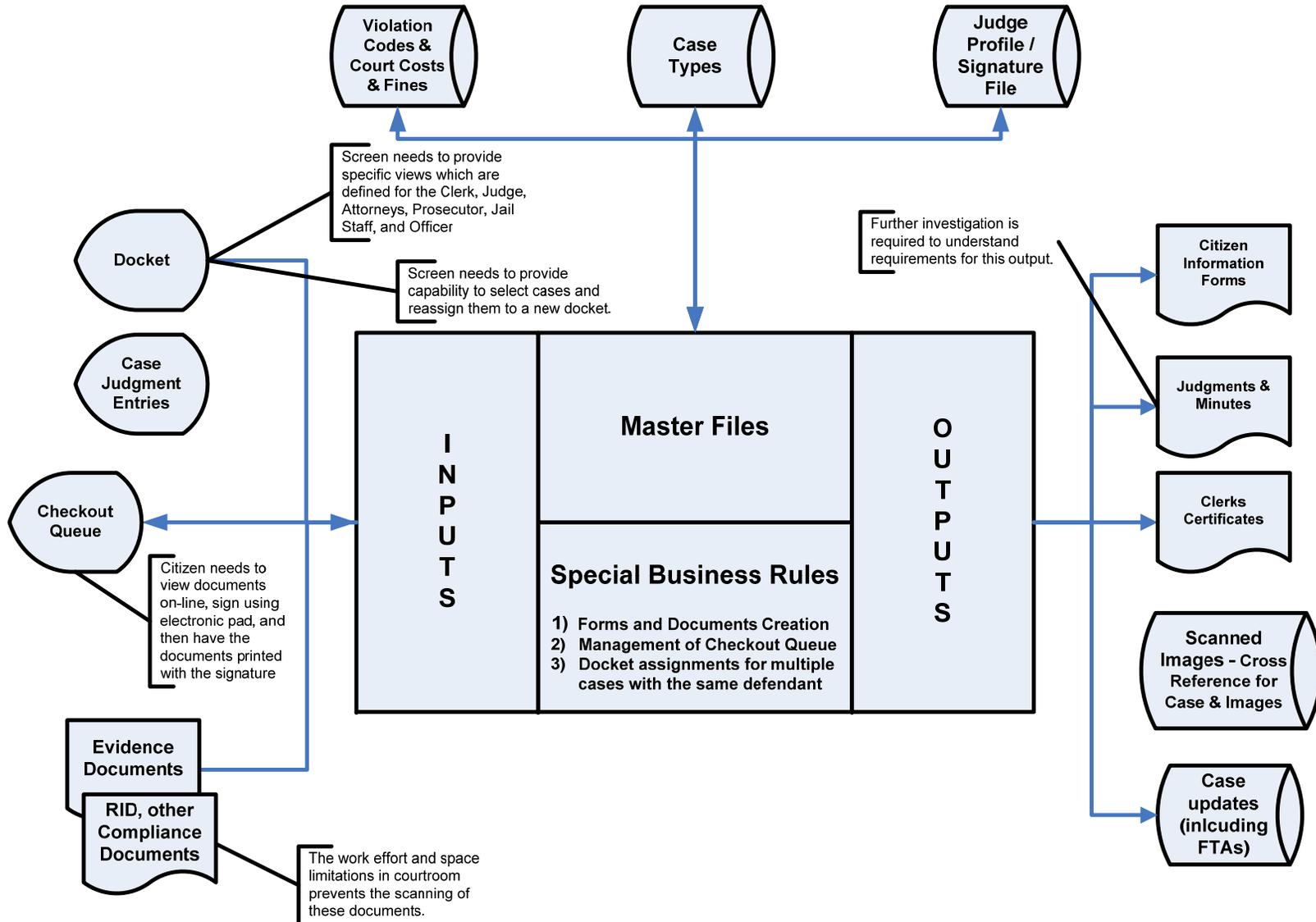
CTM must actively monitor case updates and determine if the update has triggered an event that will change the status of the case. Many of the events must be dealt with immediately. For example, if someone pays a fine after a warrant has been issued, CTM must immediately change the status of the warrant to prevent arrest after the person has complied with a judge's orders. Many of the orders are based on compliance within a set number of days. CSM will translate the number of days into a specific date. Then, when that date occurs, CTM needs to evaluate the case and determine if case updates indicate compliance or non-compliance. For example, if a person agrees to complete DSC, the judge will require completion in 90 days. On the 90<sup>th</sup> day, CTM will need to determine if the three required documents have been processed in CFM. If they have, CTM will trigger a scheduling event in the Case Scheduling Module to have the case assigned to a docket for closing the case. However, if the three documents have not been processed by CFM, CSM will trigger a scheduling event to assign the case to a Show-Cause Docket and send the defendant a Show Cause order.

If a person forfeits the bond on their case, the Compliance Tracking Module will handle the administrative process of revoking the bond and adjusting the assignment of proceeds based on whether a conditional plea was agreed to when a cash bond was posted. If a surety bond was posted, CTM will initiate a NISI case and the scheduling process for a NISI hearing. If the person appears as scheduled, the system will apply bond proceeds in accordance with the judgment and initiate refunds through the Sub Ledger Module.

All compliance rules for each type of order or administrative procedure must be embedded in CTM and it must provide an active monitoring process. Plus, CTM needs to handle feeds to all external agencies that require information about citations handled by the Courts.

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## 4.0 Case Adjudication Module



#### **4.2.4 Case Adjudication Module (CAM)**

The Case Adjudication Module (CAM) provides automated tools required by the judge and court clerk to process and clear a docket. The performance of this module is critical to minimizing citizen wait time in the court room and expediting processing of administrative cases. CAM will handle six critical functions:

- 1) Present the appropriate docket screen to the judge, prosecutor, defense attorney, court clerk. The judge will use the docket screen to decide how to proceed with each case and use the screen to track the status of cases awaiting judgment. The other parties will use their views of the docket screen to interact with the judge.
- 2) Provide the judge with an easy to use screen for entering judgment decisions such as deferred payments, allowing credit for time served, or substituting community service for monetary payment of fines and fees.
- 3) Generate the judgment and minutes to document the judge's orders and provide the Citizen Information Form (CIF)
- 4) Initiate a case reset in CSM and allow the court clerk to request reset options if the citizen has a conflict with the initial reset date
- 5) Provide the court clerk with a tool to manage the check-out process so that all documents for a defendant can be printed in a single batch if they have more than one case on the docket
- 6) Issue an FTA, approved by the judge, for individuals who failed to appear and generate a clerk's certificate, which is a sworn statement by the clerk that the person failed to appear

This Module must expedite processing of 100 cases within a one hour timeframe for non-trial dockets. The docket screen needs to provide a case summary that shows key information such as: Event (i.e. reason for appearance such as arraignment) Case Number, Citizen Name, Attorney of Record, Offense, Date of Offense, the Maximum and Minimum Amounts for the fines and fees, Prosecutor Recommendation, etc. For routine dispositions, the judge should be able to enter judgments on the docket screen. For more complex cases, a judge will need an easy to use judgment screen, plus easy access to all other case records. To easily balance loads in court rooms, the court clerk needs the ability to select groups of cases and transfer them to another docket using drag and drop technology. Also, the judge needs the ability to identify related cases (e.g. perhaps filed under a maiden name) and add them to the current docket.

And, the clerk will need a check-out screen that expedites determining the status of multiple cases for a citizen, organizes the distribution of documents, and simplifies the selection of new reset dates.

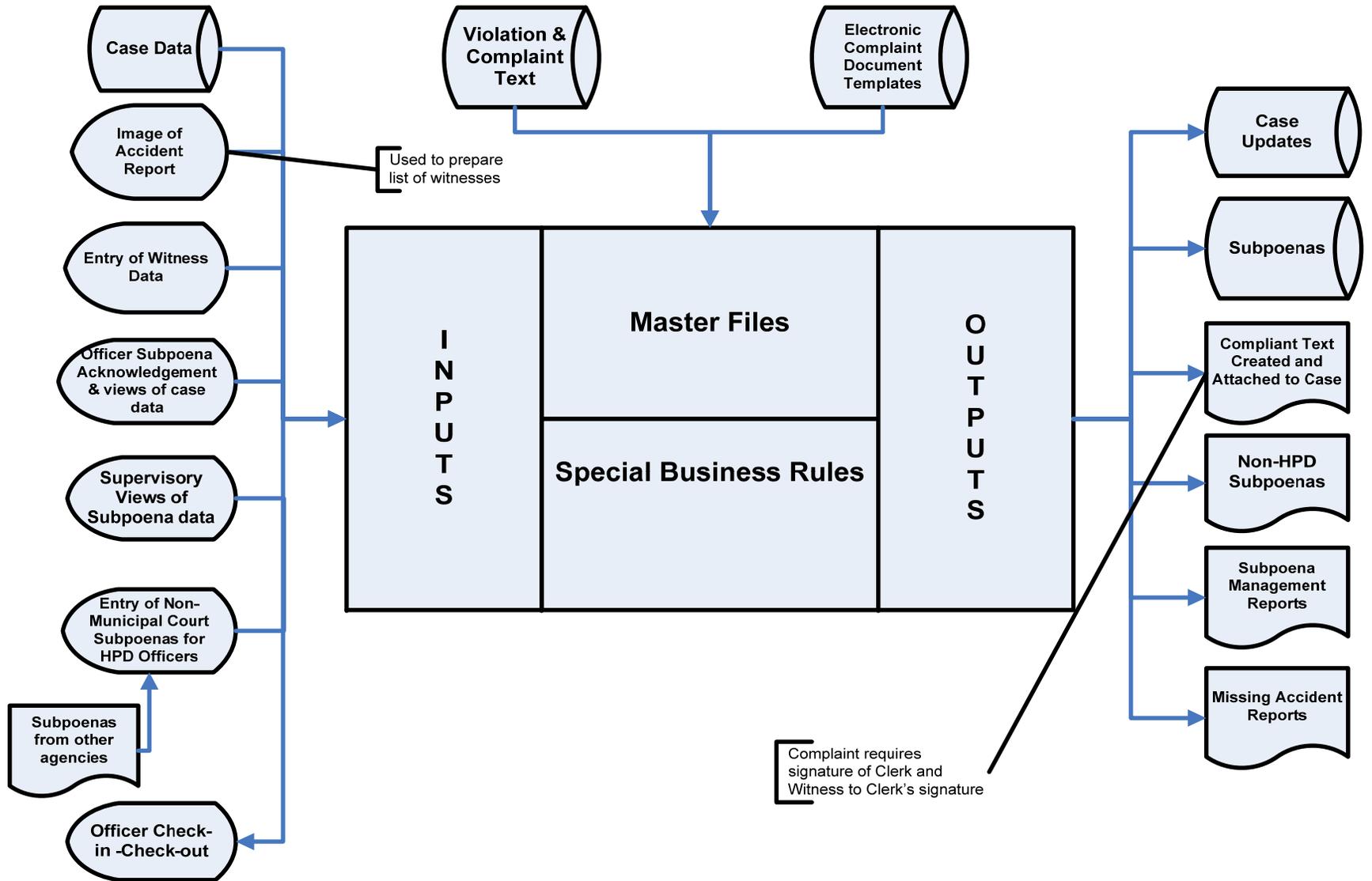
The effectiveness of this module depends on the integration of several technologies into a set of user interfaces that provide rapid updates to transactions, generate complex documents, link electronic signatures to legal documents, and capture the defendant's signature prior to generating the Citizen Information Form. Processing the docket and entering judgments must be handled without

creating multi-second wait times. The document generation process has to handle the several variations of a CIF and capture the defendant's signature on pen-pad before the documents are printed. The judgment order and courts minutes require the same level of complexity plus an electronic image of the judge's signature must be captured. This same technology needs to be used to generate the clerk's certificate and capture the clerk's signature.

Administrative dockets handle case events (e.g. paid-in-full without judgment) that require an action by a judge without the presence of the citizen. Further analysis is required to determine the best approach for providing easy to use screens for these types of dockets.

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## 5.0 Trial Preparation Module



#### **4.2.5 Trial Preparation Module (TPM)**

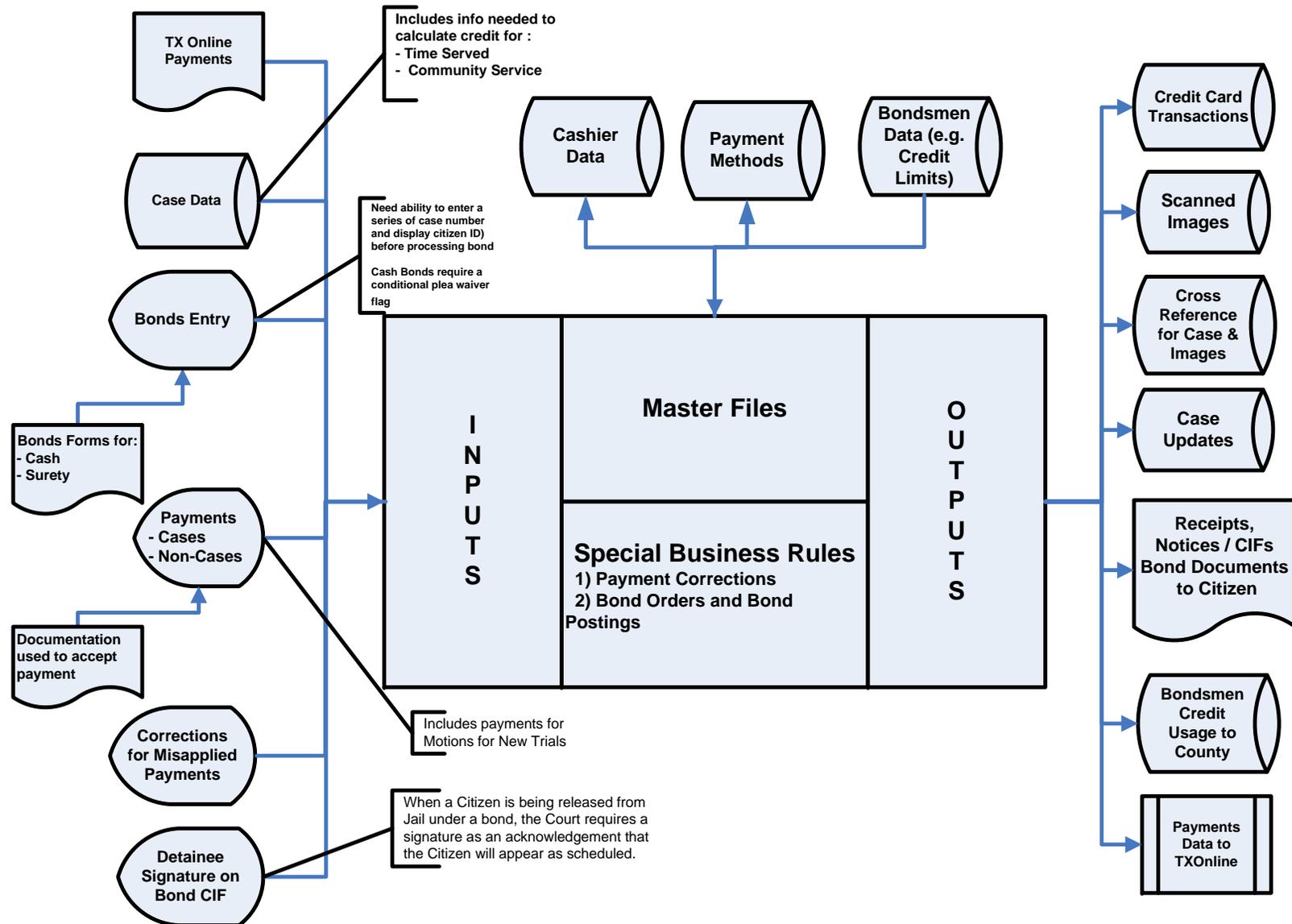
The Trial Preparation Module (TPM) handles the processes required to prepare a case for either a jury or bench trial. TPM has to perform the following tasks to complete preparations for each case that is schedule for trial by the Scheduling Module:

- 1) Identify all witnesses required for the trial
- 2) Issue subpoenas to all witnesses. TPM needs to generate electronic subpoenas for all enforcement personnel in the City and paper subpoenas for personnel outside of the City.
- 3) Provide police supervisors with the ability to track acknowledgement by officers and approve situations where an officer will not be available to testify
- 4) Provide officers from HPD and other agencies with the ability to acknowledge subpoenas, track the status of cases, and access case information needed to prepare their testimony
- 5) Generate the Complaint, which is the legal document that describes the charges for the trial
- 6) Track the check-in and check-out of HPD personnel on the day of the trial
- 7) Provide HPD with a single tool for entering and tracking all subpoenas issued by jurisdictions. This will require the development of a special entry screen that can be used by the HPD Liaison Office to enter non-municipal court subpoenas.

This module will serve multiple sets of users. The HPD officer who issues a citation will be the primary user and his supervisor will play an active role in tracking officers' acknowledgements and readiness to testify. Subpoenas issued by the Courts to HPD personnel will require the development of an automated subpoena issuance process. This automated process should handle enforcement officers working for other City departments. For other law enforcement agencies, the system needs to generate a subpoena document that can be physically delivered to the citation writer. But, the system should provide access for the officer to acknowledge and track subpoenas just like their HPD counterpart. On the day of the trial, this Module will provide a check-in process to aid the prosecutor in determining their readiness to proceed with the case. The HPD Liaison Office will handle the check-in process and, when the officer is finished testifying, the check-out process. During the development process, the Project Team needs to look for creative ways to maintain contact with officers throughout the day of the trial.

The affiant section, Public Service Counter (PSC), and court clerks are additional key stakeholders for this module. They will use the system to enter witness information needed to generate subpoenas and generate a draft version of the complaint document, which has over 3,500 variations based on the type of violation. If corrections are required, the clerk will either make updates to the case record or modify non-case data on the document, if technically feasible. The official version of the complaint document must show the electronic image of the signatures for both the clerk and the affiant, who is affirming the clerk's action.

## 6.0 Cashier Module



#### **4.2.6 Cashier Module (CM)**

The Cashier Module (CM) will control the receipt of \$50 - 70 million dollars annually and the issuance of both cash and surety bonds. Refunds will be handled in this module only for corrections of errors made by the cashier. Reimbursements for bonds and refunds related to changing a judgment, which can only be performed by a judge, will be handled in the Sub Ledger Module. Payments can be made at the Cashier window, via mail, on-line (currently through a service provided by Texas Online) or by telephone. Payments by mail and at the window will use the same payment screen. The New Courts System module will automate the process for applying on-line payments to a case. A variety of payment methods are available: cash, check, money orders, credit / debit cards, or Western Union. Any convenience fees are added to the fee amounts associated with the case. The business rules around paying a fine to obtain release from jail need to account for the anticipated credit that a judge will issue for time served. During the Cashier process, all paper documents related to the case are scanned and the electronic images are cross-referenced to the case using the document management software. In addition to case related payments, CM will handle payments for non-case transactions, such as providing a certified copy of a State Driving Record.

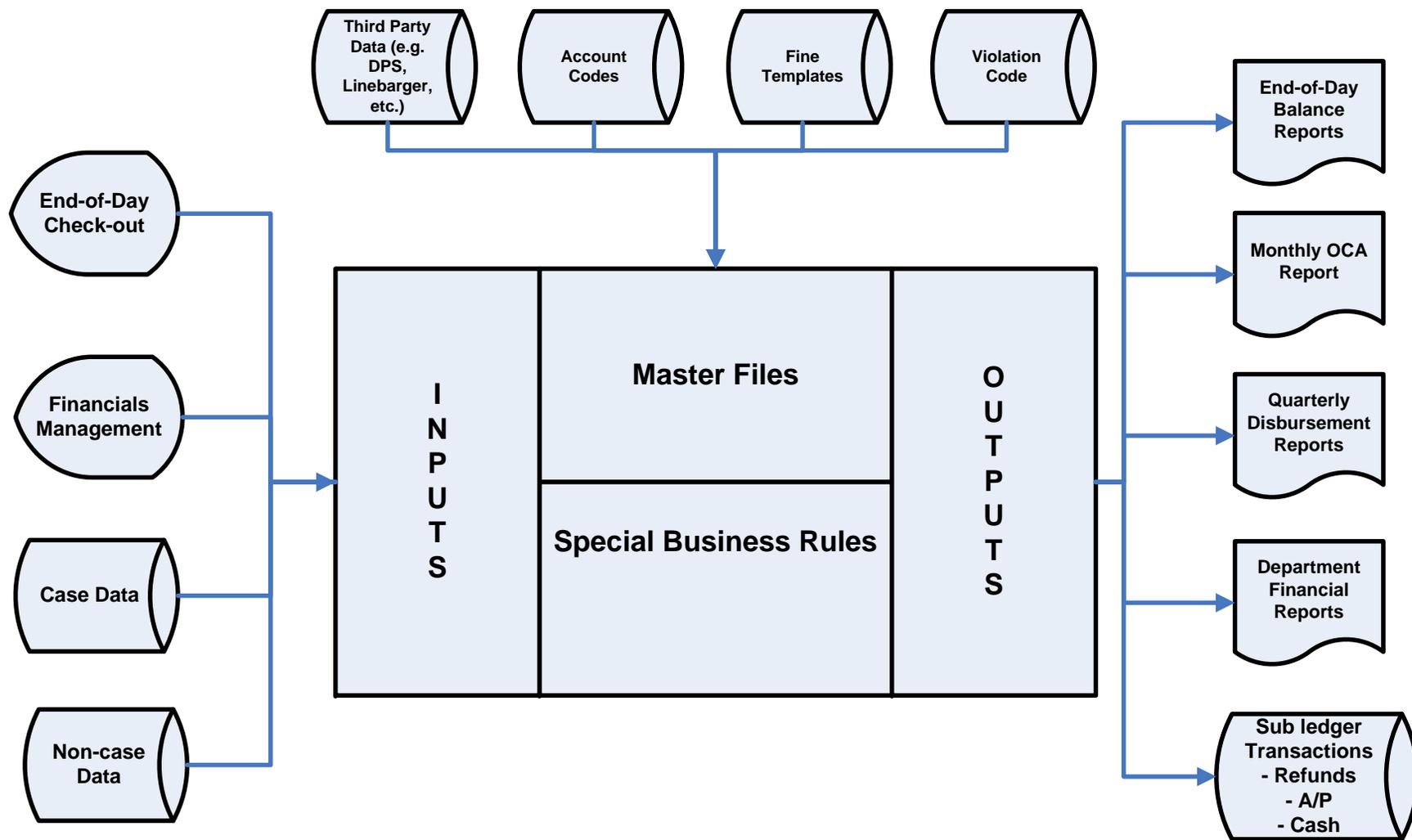
The volume of transactions and amount of money processed by the Cashier Module requires strong controls around all functions within this module. Also, tighter integration between the credit card “swipe machine” and PC used for the Cashier function can reduce errors by eliminating the manual entry of the payment amount and a transaction code. With the appropriate interface, the Cashier Module should be able to load both the payment amount and case number into the “swipe machine” so that there is an exact match between the City’s records and the transaction sent to the bank. The key will be to ensure that this approach does not require the City to comply with complex and expensive PCI requirements.

When a Cashier processes a bond, CM will provide controls to help ensure that the bond is applied to the correct case and identify all cases that the citizen needs a bond posted. This module will allow the cashier to process single or multiple cases at the same time. For cash bonds, citizens can elect to enter a conditional plea and the system needs to handle the disposition of funds in accordance with their selection, if they fail to appear. If a third party is posting the bond, the system needs to provide tools to aid the search process to select the correct cases, and the Court must obtain the detainee’s signature agreeing that they will appear as scheduled, before they can be released from jail. To streamline the process, electronic signature pads need to be installed at jail facilities. CM will trigger a docket scheduling process prior to issuing the bond and attach the CIF to other bond documents.

If a citizen wants to appeal a trial decision, they must post an appeals bond valued at twice the judgment amount and pay a filing fee. The system needs to track the status of the appeals process and handle the bond proceeds in accordance with the appeal outcome.

Note: Third party Point of Sales (POS) applications will need to be investigated to determine if an existing product can be purchased and incorporated into the New Courts System to handle the functions performed by this module.

## 7.0 Sub Ledger



#### **4.2.7 Sub Ledger Module (SLM)**

The purpose of the Sub Ledger Module (SLM) is to:

- 1) Consolidate detailed payment receipts processed by individual cashiers into summary transactions for posting to the sub-ledger
- 2) Control the daily balancing process when cashiers checkout at the end of the day processing cycle
- 3) Maintain accounting codes needed for mapping Courts transactions to the City's general ledger and accounts payable sub-ledger
- 4) Generate the transaction file that will be used by SAP to post payment related entries into the General Ledger
- 5) Based on sharing arrangements and payment cycles defined by state laws, city ordinances, and contractual agreements, calculate the amounts due to various agencies and third parties (e.g. collection agencies) for their share of the fines and fees
- 6) Use the results of the calculations described above to create the accounting entries required to adjust the value of payment receipts and create the vendor disbursement records
- 7) Generate the transaction file that will be used by SAP to post disbursement entries into the accounts payable sub-ledger. SAP will use these entries to generate the checks or initiate electronic payments to complete the disbursement process.
- 8) Provide ability to enter journal entries for manual adjustments.

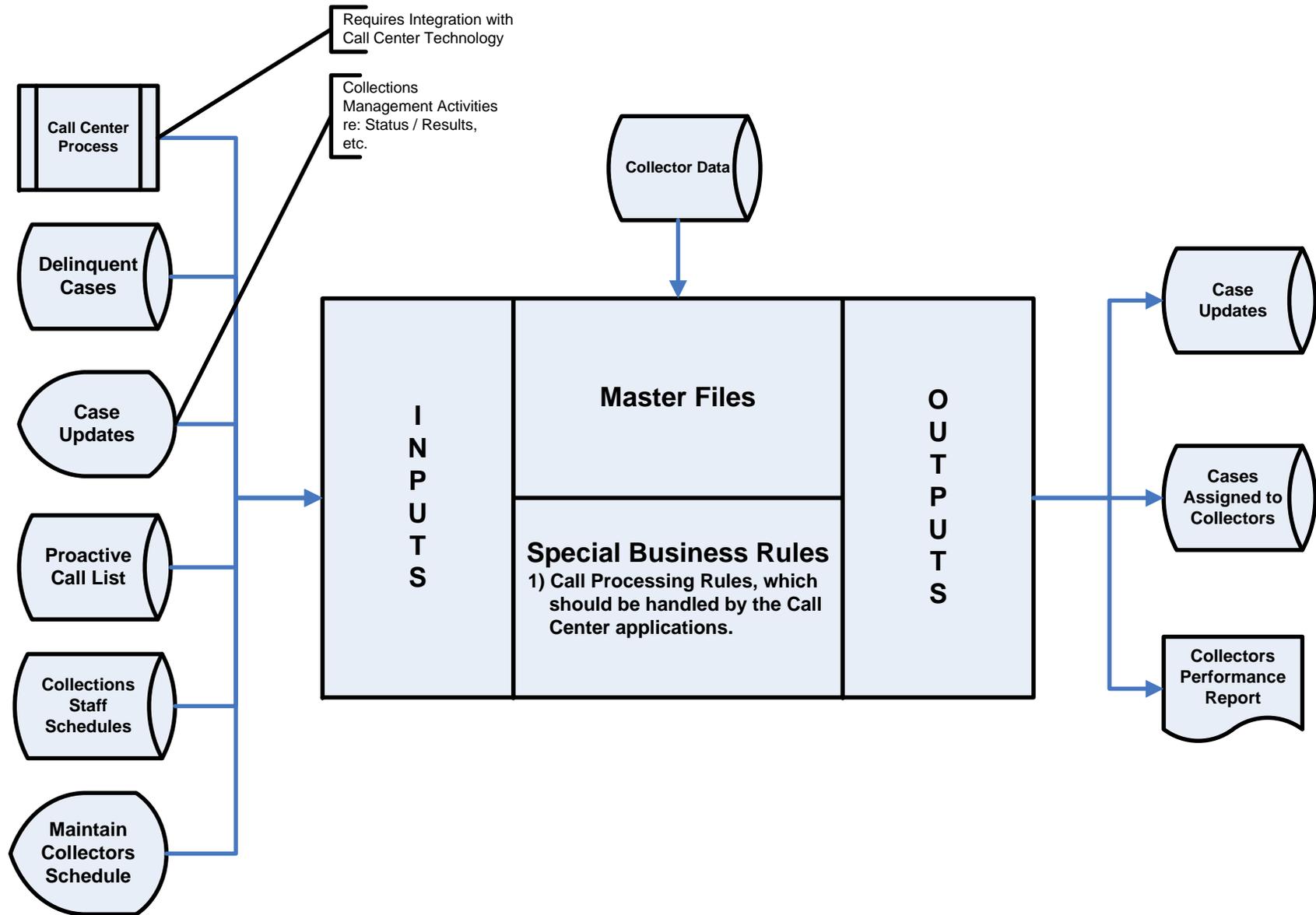
At the end of a shift, once the cashier has verified the ending balance in their money drawer, they will transfer the daily receipts (cash, checks, credit card vouchers) to the money room. A person in the money room will generate a report in SLM that shows the expected balances being transferred and verify that they are receiving the correct amounts for each class of receipts. If an over/short occurs they will enter a balancing transaction into the SLM.

At the end of the day, SLM will generate a deposit report that will be used by the bank to verify the receipts. If the bank reports over/shorts from a day's receipts, SLM will track who handled those receipts within the Money Room and maintain appropriate performance reports.

All postings to SAP should be handled via automated batch processes. SLM will generate the appropriate error reports to assist the accounting staff with troubleshooting transactions rejected by the SAP interface. Also, the accounting staff will use SLM to generate financial and management reports. And, they will use reports generated by SLM to handle inquiries from outside agencies and other third parties regarding fine/fee sharing arrangements.

The option of creating the Sub Ledger within SAP needs to be investigated during the Detailed Analysis & Design Phase.

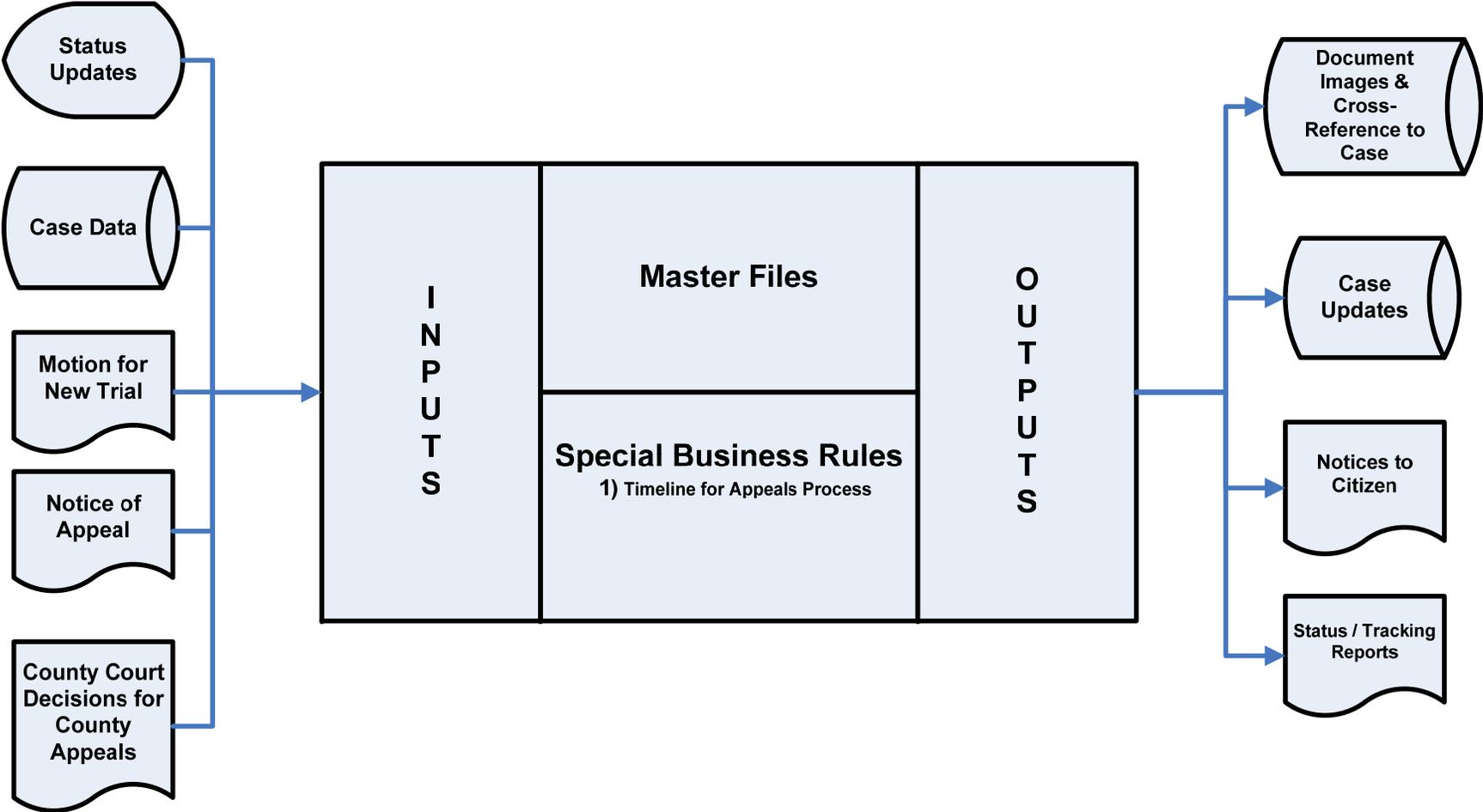
## 8.0 Collections Module



#### **4.2.8 Collections Module (COL)**

The Collections Module (COL) selects both delinquent cases and cases where the judge has approved a deferred payment option and manages the collections process until the case is submitted to the outside collection agency. This Module needs to integrate with the City's call center technology to support an outbound calling operation designed to alert citizens that their cases are delinquent or provide follow-up calls for cases that have deferred payments. The COL will select cases and transfer them to the outbound calling queue where the Call Center infrastructure will initiate the call, transfer the call to an available agent, and display case information for viewing by the agent. During the Detail Design phase, the Project Team will need to assess third party products designed specifically for the collections function and determine the feasibility of developing an interface between the Courts System and the third party collections software product rather than develop a Collections module.

# 9.0 Appeals



#### **4.2.9 Appeals Module (AM)**

Defendants can appeal a case if they want further action on a trial judgment. The defendant must submit a motion for a new trial within ten days after the verdict and at that point all compliance activities must stop. The trial judge has 30 days to respond. No response means that the motion is denied. If the motion is approved, the judgment is reversed and a trial date set. If the motion is denied, the citizen has the right to appeal to the County Court by submitting an appeal to the Courts. When the appeal is received, the Courts must initiate a workflow to track activities required to submit the appeal to the County. The Appeals Module will maintain the status of the appeals process and the Compliance Tracking Module must update the appropriate case records as the appeals status changes. As the case moves through the Appeals Process, this Module will update case records, capture electronic images of documents submitted to the County Court, and issue Citizens Information Forms.

The Appeals Module (AM) will be an extension of the Case Filing Module and it needs to provide the following capabilities:

- 1) Handle entry of data needed to initiate motions for a new trial, assign the motion to the appropriate docket, and communicate decision to the petitioner. The Compliance Tracking Module should determine if 30 days have elapsed and set the denial status on the case.
- 2) Handle entry of data needed to initiate the appeals process and validate that the appropriate bond has been posted and fees paid.
- 3) Track status of completing the appeals package.
- 4) If feasible and cost effective, automate the delivery of the appeal and supporting documents to the County Court.
- 5) Process the County Court Ruling. For Affirms, the AM will need to either apply the bond proceeds to the judgment or reinstate compliance on the unpaid balance. For reversals, the AM will need to submit the case to CSM for a trial reset and handle the bond proceeds accordingly.

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## **5.0 Application Architecture Development**

## 5.0 Applications Architecture Development

### 5.1 Overview of Application Architecture Development

An effective Applications Development Architecture must provide a flexible platform that can expedite the development effort, easily scale to handle peak transaction workloads and integrate system administration tools needed to minimize operating costs. The Architecture for the New Courts System will use a suite of software tools that allow transactions to be partitioned among hardware components without having to redesign the underlying software components; minimize maintenance costs by using industry standard products (verses custom development); and enable the (re)use of certain components, frameworks, class libraries, legacy or third-party applications, etc.

The conceptual design for the Application Development Architecture is built on the following principles:

- Use loosely coupled services and avoid tightly coupled, distributed objects

Coupling refers to the degree to which two services/objects depend upon one another. An object that is loosely coupled will interact with other objects only through well defined interfaces. Loose coupling reduces the impact of program changes, reduces the learning curve for a system as a whole by allowing a designer/developer to understand the inner workings of one module at a time, and reduces the effort required to reuse an object's functionality.

- Separate service interfaces from service implementations

To be most effective, services should be accessed through well-defined interfaces which hide the details of a module's implementation. Over time, however, services will be updated to reflect new requirements and/or improved functionality. If these new features can only be exploited by creating new interface specifications, every enhancement has the potential to impact unrelated code. Separating the implementation of future releases from the way in which a component accesses those services improves the resiliency of deployed services.

- Separate business logic from common utilities such as login, monitoring, security

A key concept of a services-based architecture is the separation of unlike functionality into distinctly different services. Functionality associate with the application's business logic, for example, is distinctly different from the functionality required to allow users to login, to provide access only to business logic appropriate to an individual's work effort, and to monitor individual and systemic activity. By supporting this separation of function, the architecture supports division of labor (during development and of the support staff).

- Separate business logic from the underlying transport

Similarly, separating functionality from the way components communicate eliminates the need for business logic to ‘code for’ lower level activity. For example, abstracting the application logic from the database reduces/eliminates the need for individual programs to manage access to a database (whether with connection strings or id pooling).

- Enable reusability of business logic/rules

To the extent that individual business rules are designed, constructed and implemented as distinct, separately accessible functions, functional components can use rules without writing each rule into the application code. For example, a parameterize scheduling service could potentially support the scheduling needs of case initiation (to schedule an initial arraignment), the courtroom (to set a new court date), the front counter (to set up a reminder notice for a future payment), etc.

- Use a standards-based approach

The technology business is built on standards. Standards reduce complexity and make it easier both to understand and to interoperate with a product/service. Every vendor, however, ‘extends’ standards. Extensions enhance the functionality available through strict standards compliance, but ‘hook’ customers into long-term commitments to specific products/services. In some cases, extensions provide functionality (especially relating to performance) that is required. In other cases, the extensions make it easier to deliver or support an application. Over the long-term, sticking with standards is likely to reduce the complexity and the cost of sustaining the application.

Key features of the proposed technical architecture design include:

**Scalable design** – The Architecture is designed for high volume transactions using a distributed architecture leveraging Service Oriented Architecture principles. Back-end performance and capacity can then be increased and tuned through the addition of new hardware with minimal or no downtime.

**Open design** – The Architecture will support for integration to multiple external systems. Using an open design minimizes the effort required to interact with 3<sup>rd</sup> party systems/products) (like an enterprise payment system or document management and database products).

**Security** – The Courts’ security scheme needs to leverage standard encryption and optionally implement digital certificate technology to create as high a level of authentication and security as needed. It should account for a mobile workforce that moves from computer to computer during the day.

**Best Practices and Standards Based** – The system should comply with the best practices in system and infrastructure design and, when appropriate, industry standards should be leveraged over custom or home-grown architectural concepts for integration, presentation, and data access. Using standard practices minimizes development time and cost while reducing ongoing support costs.

**Total Cost of Ownership** – The architectural costs must be determined and planned for over the useful life of the assets. The City is expecting to obtain a high-level financial estimate designed to help in the decision making process of this very important initiative. Direct and indirect costs should be defined and may include the following:

- Servers (Primary and Disaster recovery)
- Data Center (floor space)
- Network and Infrastructure
- Resources during implementation and support
- Software license costs
- End-user computer hardware
- Testing
- Auditing
- Insurance
- Migration
- Decommissioning
- Upgrade and Scalability
- Backup and Recovery
- Outage support

Some of the key benefits of the proposed Courts Architecture include:

- **Standardization** – The framework will make development consistent across the system. This should result in fewer bugs to resolve and shorter development cycles.
- **Development Productivity** – The framework will provide a set of useful reusable components and guidelines.
- **Reusability, Flexibility and Extensibility** – The framework is architected to allow business actions to be plugged-in based on configuration with minimum or no code modifications.
- **Deployment** – A rich client interface can be deployed centrally and will allow for new components to be deployed without redeploying a huge code base.

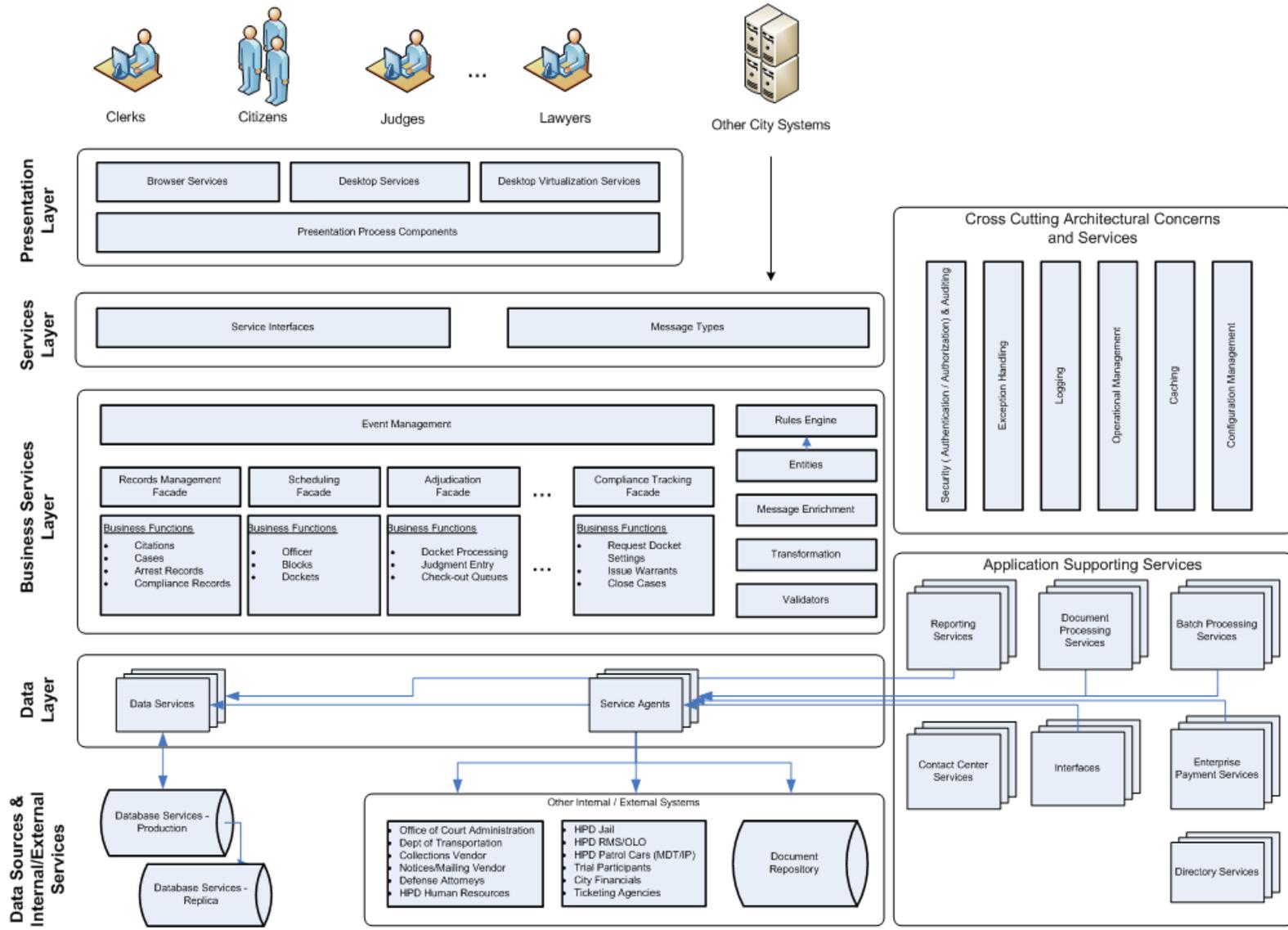
- **Cost Reductions** – Standardization, development productivity, and reusability will all drive down the total cost of delivering and supporting the new system.
- **Business Agility** – Implementing the proposed architecture will ensure a more rapid response to internal/external business circumstances.

SOA-specific benefits include:

- **Domain Alignment** – Reuse of common services with standard interfaces increases business and technology opportunities and reduces cost
- **Abstraction** – Services are autonomous and accessed through a formal contract, which provides loose coupling and abstraction
- **Discoverability** – Services can expose descriptions that allow other applications and services to locate them and determine the interface

An overview of the Application Architecture Development and a preliminary inventory of services that need to be provided by this architecture are presented on the next two pages.

# Application Development Architecture Overview



## 5.2 Description of the Key Architectural Components

This Conceptual Application Architecture Development anticipates the need for services to support events, business logic, document management, scheduling, workflow, etc. The paragraphs that follow provide brief descriptions of the top-level services, as envisioned.

### 1. Presentation Layer

The presentation architecture defines the design and models used to build a maintainable presentation layer; as well as, the means by which the presentation layer communicates with the Business Services. This layer provides the visual components by which all users interact with the application – entering data, triggering events, running reports, scheduling batch jobs, etc. The Presentation Layer separates the user interface from the logic and data of the application, to make it easier to update each tier separately – without impacting the other tiers.

Three distinct flavors of the Presentation Layer have been identified: Browser Services, Desktop Services, and Client Virtualization Service.

### 2. Services Layer

One of the main design goals is to provide an architecture for future growth. The Services Layer introduces key concepts that allow for a flexible and responsive IT architecture that can adapt quickly to changing business architecture.

As the technical architecture evolves beyond the Courts and becomes a provider of services to other applications, it should support a presentation layer directly and expose functionality in a way that other non-visual consumers can invoke business processes or discrete services. The Service Layer components provide other clients/systems with a way to access the business logic pioneered by the Courts and make use of the functionality of the system by passing messages over a communication channel.

### 3. Business Services Layer

The Business Services Layer describes the platform for creating a strong business service tier for the New Courts system. The Business layer components implement the core functionality of the system and encapsulate the relevant business logic. Conceptually, the Business Services Layer supports the basic business logic required by the New Courts System. Components will include: Event Manager, Application Façade, Rules Engine, Business Entities, Message Enrichment, Transformation, Validations, and Other Functional Services.

#### **4. Data Layer**

The data access layer provides a unified approach for accessing disparate data sources in a simple, easy to use, and standard way by the presentation and/or business services layers. This is accomplished by:

- Factoring out the logic necessary to access the underlying data source which centralizes the data access functionality, making the application easier to configure and maintain.
- Creating Helper functions and utilities to assist with data manipulation and the assembling of data sets
- Isolating the business layer from external functionality and data sources

#### **5. Data Sources and Internal/External Services**

As depicted in the diagram, data sources are the repositories for internal and external data. Within the application, data are typically stored in a database (like MS SQL Server or Oracle) or a hierarchical file system (like the Microsoft directory structure). In some cases, required data is stored in external systems and accessed through one of several possible interfaces; e.g., web services, remote procedure calls, flat file transfers, etc.

#### **6. Cross-Cutting Services**

The Case Management System must deal with a number of global issues, including:

- Security / Authentication / Authorization
- Auditing & Logging
- Exception Handling
- Operational Management
- Caching
- Configuration Management

To be handled effectively, these concerns should be addressed by functionality that cuts across all services and components and not handled separately by any service or component. By architecting the solution properly, each of these concerns can be addressed once and published for all components and services to use.

#### **7. Supporting Services**

It will not be practical for the City to develop all the functionality required by the New Courts System. Recreating a system for scanning, indexing, storing and retrieving electronic documents, for example, is as large and complex an undertaking as developing the New Courts System. Reporting services, call center solutions, batch processing tools, an enterprise payment service, and directory services are additional examples of products the City will buy rather than build.

Similar to external data services, all third party applications should leverage service-based concepts and provide standard interfaces that the New Courts System can access through remote procedure calls and/or web service calls. Where practical, the City should require these interfaces of all future 3<sup>rd</sup> party products that are likely to be deployed in support of business applications.

### 5.3 Inventory of Interfaces

Typically, services expose functionality to other services or to application logic. In this context, Interfaces is less a service and more a special category of application logic. Interfaces, like integration services, provide a way for the application to communicate with external systems.

The Courts have numerous interfaces – to other City departments, to State agencies, and to interested parties. The preliminary inventory includes:

#### Houston Police Department

1. Motorola Electronic Citations
2. Accident Reporting
3. Warrants
4. Jail – Booking, Bonding & Release
5. HPD Patrol Cars (MDT/IP)

#### State of Texas

1. Department of Transportation
2. Office of Court Administration

#### City Financials

#### Call Center Platform

1. Citizen Interactive Voice Response
2. Citizen Payment
3. Collections

#### External Stakeholders

1. Defense Attorneys
2. Bondsmen
3. Linebarger (Collections)
4. Texas On-Line/BearingPoint (On-line payments)
5. Wells Fargo (In-person credit card payments)
6. Lason (Bulk mail noticing)
7. External Ticketing Agencies (e.g., Rice University)

### 5.4 Application Development Architecture –Strategy

The following table documents the proposed approach for building an Applications Architecture Development that can address the requirements of the Courts project and provide the applications development platform needed to build cost-effective software solutions for all city departments. The Table identifies the key design considerations for each of the eight components that comprise the

Applications Application Architecture Development. Then for each of the components, it outlines the role of each of its services and the anticipated strategy for implementing the service.

Components	Service Component Descriptions	Component Development Strategy
<p><b>Presentation Layer<sup>1</sup></b></p> <p>Key decision points in the Presentation Layer include:</p> <ul style="list-style-type: none"> <li>▪ For which application components will rapid response times dominate design decisions?</li> <li>▪ To what extent must thin clients look &amp; feel act like a fat client?</li> <li>▪ Will the presentation layer support sequenced processes or will it be confined to delivering content?</li> <li>▪ Will desktop/smart client components be centrally deployed and managed?</li> </ul> <p>The Courts will deploy a mixed solution – using fat clients wherever necessary and thin clients wherever possible. Regardless, all desktop deployments will be managed centrally.</p>		
<p><b>Browser Services</b></p>	<p>Portions of the user interaction layer will be made available to users of the new system via the web browser (Internet Explorer) included in the standard desktop image.</p> <p>To accommodate future scaling and high availability requirements, the browser components should consider various deployment patterns such as:</p> <ul style="list-style-type: none"> <li>▪ Non-distributed (single web/application server)</li> <li>▪ Distributed (multiple web/application servers)</li> </ul> <p>A browser-based UI typically requires less desktop support, will not support high-volume transactions, and does not have the rich look &amp; feel of a client-server application.</p> <p>Using Rich Internet Application (RIA) technologies can increase the richness of the experience and improve throughput, but requires a significantly greater investment during development.</p>	<p>The New Courts System will use a browser-based (thin client) UI for all but high-volume activities like citation entry.</p> <p>Only a few application components will take advantage of RIA technologies.</p> <p>The Team will assume Windows 7 and Internet Explorer 7 on the desktop, IIS 7.0 on the server, and SQL Server 2008 on the back end.</p> <p><b>Critical Success Factors</b></p> <ul style="list-style-type: none"> <li>▪ Specialized components will be purchased from vendors with established track records and the financial strength to survive.</li> <li>▪ Design decisions that separate basic browser delivery from RIA and fat client deployments will drive performance.</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<b>Desktop Services</b>	<p>Desktop Services, also known as fat client services, make it possible to deliver feature rich, high-speed logic directly to the desktop.</p> <p>These desktop deployments, however, requires significantly more operational support than thin client deployments.</p>	<p>The Team will use fat clients/client server/desktop deployments only where a browser-based UI will not provide the required throughput and richness; e.g., ticket entry.</p> <p>The Team will assume Windows 7 and Internet Explorer 7 on the desktop, IIS 7.0 on the server, and SQL Server 2008 on the back end.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Minimizing the functions requiring Desktop Services will dramatically ease the burden of day-to-day support.</li> <li>▪ Choosing to use a browser to deliver high intensity functionality will negatively impact the user experience.</li> </ul>
<b>Client Virtualization Service</b>	<p>For certain users, the Courts new application must deliver the performance of Desktop Services to a remote location. This requirement can be met by virtualizing the desktop experience – by performing normal desktop operations on a centralized server and delivering the resulting images to the user workstation.</p>	<p>Both Microsoft and Citrix provide products that deliver a virtual client experience. Where needed, the Project Team will license MS Terminal Services or Citrix to deliver this capability.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Because of the additional support requirements, browser-based delivery will be preferable to virtualized delivery.</li> <li>▪ Remote user experience was a significant problem with the legacy court system and can not be repeated with the New Courts System.</li> </ul>
<b>Presentation Process Components</b>	<p>Beyond rendering content, the Presentation Layer can guide the user through a series of activities. These Presentation Process Components “orchestrate” user requests by providing simple workflow control, managing navigation between screens, etc.</p>	<p>The Team will rely primarily on the Model-View-Presenter (M-V-P) architectural pattern to separate end-user views from the processes required to create the views. The Presenter component will draw on Services Layer components to control content, manage state, and process standardized workflows.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Design Team must use M-V-P, appropriately, and consider other delivery models, as needed</li> <li>▪ Development tools must support M-V-P natively</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<p><b>Services Layer</b></p> <p>Key decision points in the Services Layer include:</p> <ul style="list-style-type: none"> <li>▪ How will an architecture designed to deliver access to services be able to support high volume transaction processing?</li> <li>▪ How will messages between layers and between services be managed?</li> </ul>		
<p><b>Service Interfaces</b></p>	<p>Service Interfaces expose business logic as a service by supporting the communication contracts (message-based communication, formats, protocols, security, exceptions, and so on) its different consumers require.</p> <p>Service Interfaces receive inbound messages from other layers and other services. This interaction is governed by a messaging contracting that defines message formats and requester/server responsibilities.</p>	<p>The New Courts System will use Service Interfaces to hide the complexities inherent in the underlying service components.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Design Team must define and enforce clear contracts between services, and between servers and consumers of requests</li> <li>▪ Development tools and class libraries must support these contracts</li> </ul>
<p><b>Message Types</b></p>	<p>When exchanging data across the service layer, data structures are wrapped by message structures that support different types of operations. For example, you might have a Command message, a Document message, a Request and Response Message. These are message contracts for communication between service consumers and providers.</p>	<p>The New Courts System will use messaging standards to ensure that messages between components are properly received and processed.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Development tools and class libraries must support message contracts</li> </ul>
<p><b>Business Services Layer</b></p> <p>Key decision points in the Business Services Layer include:</p> <ul style="list-style-type: none"> <li>▪ How will the architecture hide changes to the underlying component logic?</li> <li>▪ How will the New Courts System ensure that all business processes occur in the proper order?</li> <li>▪ When can the Design Team use declarative rules to replace coded workflows?</li> </ul>		
<p><b>Event Manager</b></p>	<p>The Event manager simplifies the interaction between the presentation and business layer by acting as a service interaction broker. It leverages the rules engine and workflow components in order to initiate, schedule and</p>	<p>The New Courts System will include an Event Manager that will serve as the “traffic cop” controlling process flows. In some respects the Event Manager must be a custom component. In other respects, certain third (3<sup>rd</sup>) party tools seem to provide much</p>

Components	Service Component Descriptions	Component Development Strategy
	<p>consume other services that make up a larger business process.</p>	<p>of the required flow control.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The Architecture and/or Design Teams must decide whether the available commercial products are capable of controlling court processes with sufficient granularity</li> <li>▪ The speed and thoroughness with which the Design and Development Teams learn how to use the Event Manager could dramatically reduce the amount of coding required</li> </ul>
<p><b>Application Façade(s)</b></p>	<p>Application Facades map the logic in the business services layer for components and other applications – hiding the complexity of the underlying logic. It is optional and it will be used if your logic is reusable.</p> <p>The New Courts System may support a series of facades for specific court functionality: Records Management, Scheduling, Adjudication, Compliance, etc.</p>	<p>The New Courts System will use facades to mask the complexity of underlying component logic, to standardize inter-component communication and reduce the required amount of custom coding.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The Design Team must create facades for all key business entities/functions early in the design process</li> <li>▪ The facades must make public all functionality that will be required by developers while hiding functionality not required by components beyond the façade</li> <li>▪ The code supporting each façade must be thin; that is, not complex and with little mass</li> </ul>
<p><b>Rules Engine<sup>2</sup></b></p>	<p>A Rules Engine allows for declarative modeling of application logic. A rules engine can be tied to workflow to reduce the “coding” required to achieve a desired process flow. A Rules Engine provides the ability to:</p> <ul style="list-style-type: none"> <li>▪ Register, define, classify and manage rules</li> <li>▪ Verify consistency of rules definitions</li> <li>▪ Define relationships between different rules</li> <li>▪ Relate rules to IT applications that are affected by or need to enforce one or more of rules</li> </ul>	<p>The New Courts System will use a commercial rules engine to create, manage, and control application business rules. This engine may be a 3<sup>rd</sup> party product or a class library. It will not be developed internally.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The value derived from declarative rules must exceed the cost of learning and using a rules engine</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<b>Message Enrichment</b>	<p>Message Enrichment rationalizes data attributes and provisioning of data services to provide a single view of a business entity (a logical view of a business function)</p> <p>To service a request from an application component or from another application, Message Enrichment may:</p> <ul style="list-style-type: none"> <li>▪ Integrate data from multiple data sources</li> <li>▪ Retrieve missing data elements</li> <li>▪ Transform data into a new format</li> <li>▪ Validate data before an processing</li> </ul>	<p>The New Courts System will include a message enrichment capability. This will be a custom solution based on a class library that supports data transformation.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Avoid point-to-point custom code wherever possible</li> <li>▪ Rely on extract/transform/load tools to pull and transform data</li> <li>▪ Use custom code to ensure the integrity of the message received/sent</li> </ul>
<b>Transformation</b>	<p>Data and Message Transformations are needed when different systems/components, using different data formats, need to exchange data. Exchanges can occur real-time, near real-time or in a batched mode.</p>	<p>The New Courts System will make data transformation available to other court system components and to external applications.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ To the extent possible, data transformations should be declarative or configurable</li> <li>▪ Throughput may be a critical issue, so transformations should not add significant delays to the underlying business function</li> </ul>
<b>Validators</b>	<p>Applications that accept input must ensure that only 'good' data are processed into the system, and 'bad' data are identified and handled appropriately.</p>	<p>The New Courts System will use a pre-defined suite of validators to check data before it is processed into the system. These validators will be an architectural component and will be applied to all data as it is accepted by the system.</p> <p>Validators may be implemented using rules, properties and code.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Whenever possible, validations should be implemented as business rules – requiring little, if any, coding</li> <li>▪ It should be possible to group and order validators to perform multi-step validations</li> <li>▪ Only rarely should programmed validations be required</li> <li>▪ Validation rules, as implemented, must be strictly enforced throughout the new system</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<b>Business Functions</b>	Functional Components implement the business logic of the application. Regardless of whether a business process consists of a single step or an orchestrated workflow, these are the granular pieces of software that implement specific business tasks.	The New Courts System will include business logic designed and developed by the Application Team. These components will be built using a toolkit and framework of class libraries proven to have delivered enterprise-class applications in an n-tier environment.  Critical Success Factors <ul style="list-style-type: none"> <li>▪ Because Functional Components consist exclusively of custom logic, the Development Team must use best practices to design, code, test, and deploy this logic</li> <li>▪ Errors must be traced to their source and corrected, as quickly as they are discovered</li> <li>▪ All functionality must be traceable to one or more business requirement.</li> </ul>
<b>Data Layer</b> Key decision points in the data layer include: <ul style="list-style-type: none"> <li>▪ What representation format will be used to pass data between application layers?</li> <li>▪ How will presentation layer transactions be handled?</li> <li>▪ Which layers should be allowed direct access to data?</li> </ul>		
<b>Data Services</b>	Data Access Components abstract the logic necessary to access the underlying data source. Doing so centralizes the data access functionality, which makes the application easier to configure and maintain.  Data can be passed between application layers in any of several different formats: data set or typed data set, data reader, XML, or custom "business" objects. Different formats may better meet specific business requirements.  Data Access Logic components expose methods for inserting, deleting, updating and retrieving data, including: <ul style="list-style-type: none"> <li>▪ Paging large quantities of data</li> </ul>	Although, the architecture should be prepared to support any or all of these internal formats, XML, because of its universal applicability, will be the default.  The City will use Microsoft SQL Server 2008, unless a compelling argument can be made that the Courts new application requires high security and/or high volume transaction processing.  Critical Success Factors <ul style="list-style-type: none"> <li>▪ The architecture should be capable of supporting multiple message formats</li> <li>▪ Data Access Components should form an abstraction layer between all data consumers and the underlying database</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
	<ul style="list-style-type: none"> <li>▪ Connection management</li> <li>▪ Using stored procedures for implementing queries and data operations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Upgrades/Changes to the underlying database should not impact any application or service logic</li> </ul>
<b>Service Agents</b>	<p>Service Agents provide a standardized way by which an application can use data/functionality exposed by external services. Service Agents isolate the business layer from the complexities associated with accessing external functionality both by:</p> <ul style="list-style-type: none"> <li>▪ Mapping the format of the data exposed by the service to the internal format your application uses</li> <li>▪ Managing the semantics of calling external services</li> </ul>	<p>The new Courts new application will access/update several data sources external to and outside the control of the Courts staff; e.g., HPD personnel data, collections data, State violation date, etc.</p> <p>The New Courts System will build custom Service Agents that will insulate the application's internal logic from external data sources and functionality.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Service Agents must be as declarative as possible – to minimize the amount of point-to-point code</li> <li>▪ When used as part of a high volume transaction, Service Agents must not introduce performance bottlenecks</li> <li>▪ Service Agents must conform to authentication, authorization, and audit standards</li> </ul>
<b>Helpers / Utilities</b>	<p>Helper functions and utilities are common in this layer and assist in data manipulation and assembling of data sets.</p>	<p>The New Courts System will use Application Blocks and 3<sup>rd</sup> party utilities to support Data Layer components.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Helpers/Utilities must be easy to learn and use</li> <li>▪ 3<sup>rd</sup> party products should be used whenever possible; the number of custom helpers should be kept to a minimum</li> </ul>
<p><b>Cross-Cutting Services</b></p> <p>Key decision points in the data layer include:</p> <ul style="list-style-type: none"> <li>▪ How do we avoid re-coding these services into each application program?</li> <li>▪ How will the use of these services be enforced? Monitored?</li> </ul>		

Components	Service Component Descriptions	Component Development Strategy
<b>Security (Authentication / Authorization) &amp; Auditing</b>	<p>Security policy is concerned with authentication, authorization, secure communication, auditing, and profile management. Security Services expose the functionality for managing the application-focused security policies.</p> <ul style="list-style-type: none"> <li>▪ Authentication: Validates user / entity access rights based on user-id/password during log-on</li> <li>▪ Authorization: Ensures that the user / entity is able to perform only the tasks assigned to the authenticated identity</li> <li>▪ Secure Communication: Ensures that communication between the tiers of your application is secure to avoid attacks in which data is "sniffed" or tampered with while it is being transmitted or is being stored in a queue</li> <li>▪ Auditing: Track user and business activity in the application for security purposes</li> <li>▪ Profile Management: Consists of information about the user that your application can use to customize its behavior</li> </ul>	<p>The New Courts System will select a standard set of class libraries and application blocks to create and maintain security. By default, Microsoft's Security Application Block will provide this foundation.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The Architecture and Design Teams must establish clear standards for implementing security features before any design or construction work begins</li> <li>▪ Standards must be enforced rigorously</li> <li>▪ Coding templates must be created early in the development process</li> </ul>
<b>Logging and Operational Management</b>	<p>Collects information needed for troubleshooting, analysis and security audits. Activities across both the physical and logical tiers will be logged and used to generate audit reports.</p>	<p>The New Courts System will select a standard set of class libraries and application blocks to support logging and operations. By default, Microsoft's Logging Application Block and Policy Injection Application Block will provide this foundation</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The Architecture and Design Teams must establish clear standards for implementing logging before any design or construction work begins</li> <li>▪ Standards must be enforced rigorously</li> <li>▪ Coding templates must be created early in the development process.</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<b>Exception Management</b>	<p>Exception Management encompasses identify, catching and throwing exceptions, designing exceptions, flowing exception information, and publishing exception information to diverse users.</p> <p>Where exceptions can not be caught and resolved automatically, a meaningful error should be displayed and the exceptions should be logged for future reference.</p>	<p>The New Courts System will select a standard set of class libraries and application blocks to support logging and operations. By default, Microsoft's Exception Handling Application Block will provide this foundation</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ The Architecture and Design Teams must establish clear standards for implementing exception handling before any design or construction work begins.</li> <li>▪ Standards must be enforced rigorously.</li> <li>▪ Coding templates must be created early in the development process.</li> </ul>
<b>Caching</b>	<p>Cache represents computer resources that are set aside to optimize data transfers between system elements with different characteristics. Caches store items that are either expensive to create or expensive to transport and may reside in memory or as fast-access data stores.</p> <p>Caches can be created in the presentation layer, the business services layer, or the data layer and can help overcome:</p> <ul style="list-style-type: none"> <li>▪ Performance issues by storing data as close as possible to the data consumer</li> <li>▪ Scalability issues by better managing system resources</li> <li>▪ Availability issues by increasing the probability of surviving a system or network outage</li> </ul>	<p>The New Courts System will use caching when and where it makes sense. Any class libraries used by the development team will support caching at any layer. Design and coding standards will be developed, based on architectural or design-time considerations. These standards will control when, where and how data will be cached.</p> <p>Critical Success Factors:</p> <ul style="list-style-type: none"> <li>▪ Incorporate class libraries that support different types of caching</li> <li>▪ Develop and enforce strong design and development guidelines for caching data</li> <li>▪ Measure the effectiveness of caching strategies during testing and after go-live</li> </ul>
<b>Configuration Management</b>	<p>Configuration Management ensures that a product performs in accordance with its requirements / specifications by controlling changes to hardware, software, firmware, and documentation throughout the information system's life cycle.</p>	<p>The New Courts System will leverage policies &amp; procedures, tools and class libraries to ensure that the New Courts System's configuration is well and tightly controlled.</p> <p>Critical Success Factors:</p>

Components	Service Component Descriptions	Component Development Strategy
		<ul style="list-style-type: none"> <li>▪ Store all configuration data in a centrally managed repository</li> <li>▪ Use a configuration tool to administer this repository</li> <li>▪ Develop a configuration management service to standardize access (inserts, updates, deletes, retrieves) to the repository</li> </ul>
<b>Batch Processing</b>	<p>Batch Processing occurs when the business requirements call for long-running and/or high-intensity processing. Batch processes are frequently scripted to perform a series of activities sequentially.</p>	<p>The New Courts System will make extensive use of batch processing. In some cases batch processes will run using normal transaction processing services. In other cases, it will be necessary to off-load the processing to a separate batch processing server.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Tool to develop and maintain batch scripts (or jobs) capable of controlling the flow of activity</li> <li>▪ Services that support off-loading batch processing to special servers</li> <li>▪ Tools for monitoring server performance</li> </ul>
<p><b>Application Supporting Services</b></p> <p>Key supporting services decision points include:</p> <ul style="list-style-type: none"> <li>▪ Which services can be provided by off-the-shelf products?</li> <li>▪ How will these off-the-shelf solutions be integrated?</li> </ul>		
<b>Directory Services</b>	<p>A Directory Service is a shared information infrastructure for locating, managing, administering, and organizing common items and network resources, which can include volumes, folders, files, printers, users, groups, devices, telephone numbers and other objects.</p>	<p>The New Courts System will use Microsoft's Active Directory to manage critical resources.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Active Directory must be deployed at the Courts as part of the development effort – must be in place prior to implementing the system</li> <li>▪ Directory Services should support authentication / authorization services.</li> </ul>

Components	Service Component Descriptions	Component Development Strategy
<b>Reporting Services</b>	<p>Reporting Services should provide:</p> <ul style="list-style-type: none"> <li>▪ Tools to create, deploy, and manage reports, as well as programming features to extend and customize reporting functionality</li> <li>▪ Interactive, tabular, graphical, or free-form reports from relational, multidimensional, or XML-based data sources</li> <li>▪ Ability to publish reports, schedule report processing, access reports on-demand, and/or create ad hoc reports on demand</li> </ul>	<p>The New Courts System requires a server-based reporting platform that provides comprehensive reporting functionality for a variety of data sources. Reporting Services will support the creation, management, and delivery of reports, plus the APIs and web services required to integrate data and report processing into the new application.</p> <p>The New Courts System will use a combination of:</p> <ul style="list-style-type: none"> <li>▪ Business Objects</li> <li>▪ Crystal Information Builders</li> </ul> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Standards for report creation, deployment and consumption</li> <li>▪ Conformance to all authentication, authorization and audit policies</li> <li>▪ Ability to report against both live and replicated data</li> </ul>
<b>Document Processing Services</b>	<p>Document Processing Services provide the standard means by which all documents – whether scanned or generated – can be delivered or collected, organized, found, and presented. This service provides a single point of entry for all documents templates along with the ability to: index, search, retrieve, archive and purge documents according to a well-defined set of business rules.</p>	<p>The New Courts System will use On-Base for all document management functions.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ OnBase must successfully complete the pilot projects that are currently underway at the City and demonstrate its enterprise capability</li> <li>▪ Documents permeate court processes, so Document Services must deliver the right documents to the right user at the right time</li> <li>▪ Court documents are subject to chain of evidence criterion that must be supported by Document Management Services</li> </ul>
<b>Batch Processing</b>	<p>Batch Processing occurs when the business requirements call for long-running and/or high-intensity processing. Batch processes are frequently scripted to perform a series of</p>	<p>The New Courts System will make extensive use of batch processing. In some cases batch processes will run using normal transaction processing services. In other cases, it will be necessary to off-load the processing to a separate batch</p>

Components	Service Component Descriptions	Component Development Strategy
	activities sequentially.	<p>processing server.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Tool to develop and maintain batch scripts (or jobs) capable of controlling the flow of activity</li> <li>▪ Services that support off-loading batch processing to special servers</li> <li>▪ Tools for monitoring server performance</li> </ul>
<b>Enterprise Payment Services</b>	<p>Enterprise Payment Services provide a standardized process by which payments are accepted, processed, accounted for, and reconciled.</p> <p>An enterprise payment services must support all forms of payment:</p> <ul style="list-style-type: none"> <li>▪ In-person cash, credit/debit cards, and checks</li> <li>▪ On-line credit/debit cards and ACH</li> <li>▪ Kiosk credit/debit and ACH</li> </ul>	<p>The New Courts System will use an Enterprise Payment Service as an interlude to Chase's depository and Pay Connexions credit/debit card and ACH processing solution.</p> <p>The new system may include a Point of Sale solution tied directly to the Enterprise Payment Solution.</p> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Processes all payment transactions without error</li> <li>▪ Complies with Payment Card Industry's Data Security Standards</li> </ul>
<b>Contact Center Services</b>	<p>Contact Center Services deliver multi-channel communications capabilities including:</p> <ul style="list-style-type: none"> <li>▪ Skills-base routing of in-bound contacts to the best qualified and available agent</li> <li>▪ Out-bound and predictive dialing to support reminder and collections operations</li> <li>▪ Interactive voice response systems to "pre-qualify" in-bound calls</li> </ul>	<p>The New Courts System will leverage the City's investment in:</p> <ul style="list-style-type: none"> <li>▪ Avaya's contact center solution</li> <li>▪ Witness call recording</li> <li>▪ Verint workforce management</li> </ul> <p>Critical Success Factors</p> <ul style="list-style-type: none"> <li>▪ Contact center functionality must integrated tightly with other services and functions</li> </ul>

**Notes:**

<sup>1</sup>**Section 508** - In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. Inaccessible technology interferes with an individual's ability to obtain and use information quickly and easily. Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. '794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others. The New Courts System must comply with the Section 508 Standards as outlined in the Section 508 website ([www.section508.gov](http://www.section508.gov)).

<sup>2</sup>A rules engine will be used to capture the business rules used to determine which docket a case will be set. The Rules Engine will consider the number of cases on a docket, the requested date and time, the type of case, the availability of prosecutors and officers to determine the best docket for a particular case.

## 5.5 Development Standards

To the extent that establish standards advance the goals and objectives of a development initiative, they can dramatically reduce the time & effort required to complete the initial development work, as well as the effort required to recruit and retain the talent required to sustain the application over time. Although there may be legitimate reasons for not adhering to these established standards, the project team must weigh proposed changes very carefully. The costs associated with developing and sustaining an independent standard can be very high. To that end, the project team for the new Case Management System should adhere to the following established city-wide technology standards unless it can justify an exception to these standards.

### City-Wide Technology Standards - Infrastructure

- **HP Servers & Desktops** – The City has a 5-year contract with Hewlett-Packard to refresh desktop systems and is able to buy servers through the State's Department of Information Resources.
- **Cisco Switches & Routers** – The City is in the final stages of upgrading all network equipment to Cisco and has a long-term support contract in place.
- **MS Windows Server 2008** – The vast majority of new servers are deployed with MS Windows Server, most recently with the 2008 release.
- **MS Exchange** – Currently, the City runs Exchange 5.5, but is in the process of upgrading its aging Exchange products with MS Exchange 2007.

- **MS Windows XP** – XP is the current City standard for desktop operating system.
- **McAfee VirusScan Enterprise** – All City PCs are deployed with McAfee’s VirusScan to protect against viruses, Trojan horses, worms, and other forms of attack.
- **Avaya Contact Center** – Avaya’s software is a new enterprise standard for call/contact center functionality.

#### **City-Wide Technology Standards - Development**

- **MS Office 2003 including MS Outlook** – With few exceptions, City staff rely on MS Office 2000 or MS Office 2003 as their office automation tool.
- **MS Internet Explorer** – Explorer is installed as part of Windows and is the primary browser in use city-wide.
- **MS SQL Server 2005 with Reporting Services** – While Oracle still has a significant presence, most new applications rely on SQL Server (including the City’s implementation of SAP).
- **MS Visio** – Visio is the current standard for process mapping.
- **MS Project** – Project is the current standard for breaking down and tracking work plans.
- **Adobe’s Acrobat Suite** – Acrobat’s PDF format is an accepted industry standard for published documents.
- **SAP Financials, Human Resources, and Procurement** – SAP is the system of record for all financial, personnel, and procurement transactions, city-wide.

#### **City-Wide Technology Standards – Emerging**

- **Hyland Software’s OnBase** – OnBase is an emerging standard for capturing, indexing, and storing electronic documents.
- **IBI’s WebFocus** – WebFocus and IBI’s other data warehousing tools are an emerging standard for organizing and reporting on large volumes of data.
- **MS Visual Studio 2005 and MS .Net 2.5** – As a development tool, Visual Studio and the .Net Framework are an emerging standard supported by ITD.
- **MS Active Directory** – While not yet an established standard, the City is currently engaged in upgrading all systems to AD.

#### **City-Wide Technology Standards – Evolving**

Some of the City's current standards will be supplanted by later versions before the Case management System is deployed. The new application should be designed to use these newer versions wherever possible.

- **Directory Services** – MS Active Directory will replace the current NT-based directory service for authentication and other directory services during the time the Courts is developing its new system. The Project Team should investigate the capabilities of the new directory service and plan on using MS Active Directory wherever possible.
- **Message Services** – To the extent the new Case Management System requires messaging services, the Project Team should investigate the capabilities of MS Exchange 2007 and plan on using it wherever possible.
- **Desktop O/S** – Windows XP is the current City standard for desktop operating system. The City does not plan to deploy Windows Vista and will wait for Windows 7's release in 2010. Windows 7 will have a useful life of about 5 years and should be the target O/S for the new Case Management System.
- **Contact Center Services** – To the extent the s will integrate contact center services into its application; it should use the Avaya standard which will be upgraded to version 5.0 during the summer of 2009.
- **Office Automation** – There are no plans, at present, for the City to deploy Office 2007. In fact, the Active Directory / Exchange Project includes funding to ensure that all desktops are running Office 2003 or later. But, when the new Case Management System comes fully on-live, Office 2003 will be 8 years old and plans to replace it will (likely) be well underway. The Project Team, therefore, should investigate the functionality of Office 2007 and should plan on Office 2007 (or the next version) for any required office automation functionality.

### **Database Services**

There are only two viable database choices for the Case Management System project Team – SQL Server and Oracle. The City has been steadily moving away from Oracle and toward SQL Server for a number of years. This transition is taking place because:

- SQL Server is no longer a departmental database and provides enterprise-class functionality that competes effectively with Oracle across a broad front.
- The focus of Oracle's attention (and resources) has shifted dramatically over the last 10 years – away from database technologies and toward application technologies.
- From a cost per CPU perspective – both to purchase and to maintain – Oracle's costs are dramatically higher than SQL Server.
- Oracle Grid technologies have proven to be very difficult to deploy successfully – requiring a considerable investment in Oracle professional services to get the configuration right.

- The Courts' recent experiences with Oracle contrast sharply with ITD's experiences with SQL Server. With CourtView running on Oracle, the Courts has experienced serious performance issues (largely attributed to the database model, not to the database itself) and "split brain" failures of the Oracle cluster. With SAP running on SQL Server, ITD has experienced neither the performance nor the cluster failures (despite the complexities of the SAP data model).

### **City-Wide Technology Standards - Variances**

While the standards provide very strong guidance, exceptions to these Standards may be justified. Any requests for exceptions must provide a strong justification and demonstrate that the alternative product is compatible with the City's overall philosophy, which is focused on building skills and capabilities around the Microsoft platform. All recommendations on development tools must consider the total cost of the product lifecycle, which includes deployment and operations. The City's development platform must adhere to the following characteristics:

- Does not require highly specialized skills for which there is little demand and no supply
- Platform that is currently main-stream and there is available development and operational management skills
- Supports the creation of a Service Oriented Architecture Frameworks and business components
- Supports the use of industry services communications Standards such as SOAP (Simple Object Access Protocol) and common services styles such as REST (Representational State Transfer).

Implementation of the Application Architecture Development will require the use of products that are not currently defined in the City's Standards (e.g. Batch Processing tools.) The critical decision point will likely focus on building on the existing Microsoft foundation or introducing products sold by other leading vendors such as Novell, Oracle, IBM, and Sun. Critical decisions will have to address choices between competing products in the areas of operating systems (Windows vs. Linux), databases (Oracle vs. SQL Server), development frameworks (.Net 3.5 vs. Java EE 5), and application life cycle management tools (VS Team Edition vs. Rational). The critical advantages of Microsoft are: cost and integration.

Only IBM and Oracle offer a broader range of Application Life Cycle Management (ALM) related products.) Oracle's products are based on open standards and interoperate with the Microsoft environment, but have a decidedly Oracle database/applications focus. IBM's ALM product line is open standards based, interoperates with the Microsoft environment, and is not as IBM-centric as Oracle's products. Both IBM and Oracle are significantly more expensive than Microsoft, but both would argue (perhaps, rightly) that you get what you pay for. Similarly, talent is easier to find and cheaper to buy in the Microsoft world; in part, because the tools are easier to use and the learning curve is not as steep.

Perhaps the single most important tools decision the Project Team is likely to make is – Will we standardize on Microsoft or not? The table below lists key tool requirements and indicates whether each of the major vendors has an established product that meets each requirement. Please note an “X” is an indication of market visibility and was not determined by a formal RFI/RFP evaluation.



**City of Houston – Municipal Courts**  
Case Management System  
Conceptual Design – Technical Architecture



Rank	Tool Type	SAP	Google	MS	Sun	IBM	Oracle	Open Source
1	Project Management	X		X		X		
1	Requirements Management			X		X	X	
1	Process Modeling & Management	X				X		
1	Data Modeling & Management			X		X	X	
1	Design	X		X	X	X	X	
1	Construction	X	X	X	X	X	X	X
1	QA, Risk & Issue Management	X		X		X	X	
1	Document Management		X			X		
2	Build & Deployment Management	X	X	X	X	X	X	X
2	Change & Configuration Management					X		
2	RIA, Web 2.0 and the User Experience		X	X	X	X	X	
2	Rules Engines			X		X	X	
2	Service Oriented Architecture	X	X	X	X	X	X	
2	Workflow			X		X		
3	Monitoring & Reporting			X		X	X	
3	Distributed Teams	X	X	X	X	X	X	X

## 5.6 Next Steps

The Application Architecture Development design needs to be expanded to incorporate the following items:

- Client and server nodes of the hardware configuration
- Infrastructure services that deliver functionality
- Protocols and networks that connect applications and nodes
- Issues such as performance and resilience, storage and backup
- Application services required to deliver the required functionality
- System from the users' and sponsors' point of view
- Hardware and non-business software required to support the preceding functionality.

The Project Leadership Team needs to:

- Develop the strategy for how to extract, transform & load data from the current to the new case management systems.
- Identify challenges associated with recruiting sufficient and sufficiently skilled staff to execute the plan and develop recruiting plan.

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## Appendix A – Defined Terms

The following defined terms and acronyms have been used in the document and/or the appendices.

### A

<b>ABAP</b>	Advanced Business Application Programming
<b>ACH</b>	Automated Clearing House
<b>AD</b>	Applications Development
<b>AFIS</b>	Automated Finger Printing System
<b>ALM</b>	Application Life-Cycle Management
<b>AM</b>	Appeals Module
<b>APIs</b>	Application Programming Interface

### B

<b>B2B</b>	Business to Business
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### C

<b>CAM</b>	Case Adjudication Module
<b>CIF</b>	Citizen Information Forms
<b>City</b>	City of Houston, Texas
<b>CFM</b>	Case Filing Module
<b>CM</b>	Cashier Module
<b>COL</b>	Collections Module
<b>Courts</b>	Municipal Courts of the City of Houston
<b>CSM</b>	Case Scheduling Module
<b>CTM</b>	Compliance Tracking Module

### D

<b>DIM</b>	D.A. Intake Management (Harris County)
<b>DPS</b>	Department of Public Service
<b>DSC</b>	Driver Safety Course

### E

<b>EIE</b>	Entered in Error
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<b>F</b>		
	<b>FTA</b>	Failure to Appear
<b>G</b>		
	<b>GUI</b>	Graphical User Interface
<b>H</b>		
	<b>HPD</b>	Houston Police Department
	<b>HW</b>	Hardware
<b>I</b>		
	<b>IBI</b>	International Business Integration
	<b>IIS</b>	Internet Information Server
	<b>IT</b>	Information Technology
	<b>ITD</b>	Information Technology Department
	<b>IVR</b>	Interactive Voice Response
<b>L</b>		
	<b>Legal</b>	Prosecutor's Office
<b>M</b>		
	<b>MCCMS</b>	Municipal Courts Case Management System
	<b>MCAD</b>	Municipal Courts Administration Department
	<b>MCJ</b>	Municipal Courts Judicial Department
	<b>MDT</b>	Mobile Data Terminal
	<b>M-V-P</b>	Model-View-Presenter
<b>N</b>		
	<b>NPC</b>	Neighborhood Protection Corps
	<b>NSF</b>	Non Sufficient Funds
<b>O</b>		
	<b>OCA</b>	Office of Court administration

**P**

**PCI** Payment Card Industry  
**POS** Point of Sale  
**PSC** Public Service Counter

**R**

**REST** Representational State Transfer  
**RFI** Request for Information  
**RFP** Request for Proposal  
**RIA** Rich Internet Application  
**RID** Registration, Insurance and Drivers License  
**RMS** Records management System

**S**

**SAP** Systems, Applications & Products  
**SLM** Sub Ledger Module  
**SNMP** Simple Network Management Protocol  
**SOA** Service Oriented Architecture  
**SOAP** Simple Object Access Protocol  
**SOW** Statement of Work  
**SQL** Structured Query Language

**T**

**TPM** Trial Preparation Module  
**TxDOT** Texas Department of Transportation

**U**

**UI** User Interface

**V**

**VoIP** Voice over Internet Protocol

**X**

**XML** Extensible Markup Language

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## Appendix B - Stakeholder Roles & Responsibilities

Entity	Role Title	Description	~ Number of Users	Comments
HPD	Traffic Enforcement	Primary issuer of Traffic Citations	500 Officers are in enforcement	Officer's availability for court appearance is directly related to ability of system to issue timely subpoenas, provide online access of citation / accident report image for Pre-Trial preparations and manage the check-in process.
	Patrol	Issues Traffic and non-Traffic citation	2,500 active officers - 5,000 total officers	
	Jail	Handles Detention and Release processes for Jail operations	~ 50 Jail Staff	Legacy Jail system needs to be replaced in order to address the critical issues with the current business process & future system needs.
	Liaison Office	Enters non-Courts subpoenas and manages the officer check-in / Check-out process for Courts operation.	~ 10 officers	
	Neighborhood Protection	Primary issuer of Non-Traffic Citations related to properties.	Less than 100 officers	Officer prepares the Citation and Affidavit prior to the Case entry. Requires property deed information to prepare Complaint for Trial.
	IT	Maintain key interfaces, implement new jail system, & provide network access between New Courts System and HPD Personnel	0 Users	HPD – IT will need to provide key integration points to HPD Systems and network access for HPD users of the Courts System. HPD firewall constraints create complexities for integrated solutions between Courts and HPD.
	HPD Management Analysts, 1st line supervisors	1st line supervisors will use the system for disciplinary actions and verification of overtime reports. Management analysts will use the system to prepare reports for Senior management	1st line supervisors are less than 100. Management Analysts (?)	Anticipate that HPD analysts will use BI type tools to prepare appropriate management reports needed to provide performance metrics needed by HPD in managing police functions.
Non-City Law Enforcement		Includes Metro, HISD, County Constables who perform same functions as HPD Traffic Enforcement and Patrol.	500	Need to change the process to provide non-HPD officers with access to the new Subpoena Tracking functionality in the Trial Prep Module
Other City Departments	Animal Control, Fire Marshal, Health Inspectors, Building Inspectors, Sign Code Violations	These officers enforce the State Statute and City Ordinances related to Non-Traffic violations.	More than 500 and less than 1,000	Officer's availability for court appearance is directly related to ability of system to issue timely subpoenas, provide on-line access of citation / accident report image for Pre-Trial preparations and manage the check-in process.

Entity	Role Title	Description	~ Number of Users	Comments
MCAD	Citation Entry	Create the new cases in the system using the citation / ticket image.	150 Concurrent	The workload for this function is spread between a small data entry staff and personnel dedicated to other court operations.
	Citation QA – Court Services	Review and correct citations filed to the data entry process	10	System performance will impact the data entry performance
	Scanning	Prep and scan citations and Accident Reports so images are available for citation entry	10	
	Affiant	Review, prepare and generate charging instruments for trials. Enter all parties required for Subpoena, both outside witnesses and city agencies	10	This function is performed in the courtroom and system performance will have a direct impact on citizen wait-time during the check-out process.
	Jail Booking / Warrant Verifications	Review and compare information submitted by HPD with system of records. Work with jail to get detainee booked and placed on dockets for adjudication process. Retrieve information submitted by HPD.	25	Need access to all systems (i.e. RUMBA, CourtView, QTERM, TX Online) to research potential payments that have not been entered into the New Courts System.
	Bond Administration / Appeals	Track and handle eligibilities for Bondsman and Attorneys. Prepare NISI docket for adjudication process. Track and prepare appellate petitions. Set citizens for community services with outside agencies. Maintain community service agencies. Maintain bonding company and attorneys in the system.	10	Need to determine if the compliance module can automate the process for assigning NISI cases to a docket.
	Court Clerks	Review and finalize decisions initiated by judge (i.e. trials, clerk certificates). Disseminate paper work to Citizens. Capture signatures on applicable documents. Performs case enquiries. Update action codes. Add cases to dockets. Initiate cases (i.e. refile, citation entry).  Set citizens for community service with outside agencies.	75	

Entity	Role Title	Description	~ Number of Users	Comments
MCAD, continued	Supervisors / Managers	Identify and assist with problem solving. Perform case enquiries. Update case types, action codes. Train the staff for court process. Initiate cases. Set and reset cases. Create and Update business process. Manage reports and day-to-day operations of the Courts. Look in the TX Online for payments.	18	Need to be able to perform all functions to aide and assist their area of responsibilities, as well as other stake holders.
	Bailiffs	Check defendants and witnesses in for docket. Transfer defendants with multiple cases by the same officer to one court. Update case with defendant's attorney information. Verify that citizens are in the correct location /add defendants to docket.	26	
	Messengers / Mail Room	Maintain address information for the defendants in the system	3	Need to have an interface with NCOA for automatic address corrections. System should be able to send mails in Zip+4 formats.
	Public Service, Front Counter and Mail Clerks	Perform inquiries and provide general information on delinquent and or pending. Research and process warrant checks. Process all types of payments and request in a timely manner. Process bonds and reset cases. Provide necessary payment receipts to Citizens. Enter community service and DSC completions. Process Jail requests for Bonds and Payments according to the guidelines of business rules set by MCAD, MCJ and HPD. Schedule cases to annex courts. Send correspondence regarding case status. Set cases for property hearings.	75	

Entity	Role Title	Description	~ Number of Users	Comments
MCAD, continued	QA – Financials	Review and check work process for the PSC, Mail and Collections. Review and handle all DPS inquiries via phone, email and in person. Validate DPS payments and Case Dismissals for OMNIBASE clearances. Research / submit correction letters. Research and file NSF letters for collections. Research and file property hearing for HPD. Escalate errors/issues to supervisors for corrections. Process vouchers and update addresses. Research and process deferred dispositions and financials (Apply bond amounts).	10	
	In House Collections	Make collections calls. Process delinquent payments. Perform payment processing from HPD calls. Process DSC and deferred adjudication application requests. Process resets and RID. Take calls from 3-1-1 and respond to citizens.	22	
	Supervisor / Manager – Collections	Review staff work. Make corrections. Assign cases to collectors. Performance reporting to management.	3	
	Money Room	Balance cashier. Process bank deposits and handle posting to sub ledger	5	
	IT	Responsible for supporting system after implementation	25	Will perform system admin and security administration functions
	Back office - Financials	Perform accounting functions, financial reporting. Accounts payable. Statistical analysis and reporting. Review and post financials to enterprise financial system.	5	Acceptable accounting standards and meet reporting requirements from outside agencies. Fulfill all contractual obligations.
	Supervisors/Managers	Create and maintain all financial tables.	2	

Entity	Role Title	Description	~ Number of Users	Comments
MCJ	Judges	Adjudicate all arraignments and trials including applicable sentencing	100	Performance, reliability and availability of system should decrease citizen wait time
	Customer Service Rep	Handles all walk-ins, telephone enquiries, and resets. Research defendant complaints and update case accordingly.	25	Performance, reliability and availability of system should decrease citizen wait time
	Juvenile Case Manager	Creates and tracks case manager complaints file in accordance with sentencing requirements and updates case	2	Performance, reliability and availability of system should decrease citizen wait time
	Truancy Case Manager	Tracks cases for the complaints in accordance with sentencing requirements and updates case.	4	Performance, reliability and availability of system should decrease Citizen wait time
	Manager / Supervisors	Super User – maintains overall department files and tables in accordance with statutory and business rules requirements. Research system complaints and find parameters for resolution	4	Performance, Reliability and availability of system should decrease citizen wait time
	Officer & Court Scheduling	Creates and maintains officers scheduling requirements and court docketing.	2	Performance, reliability and availability of system should decrease citizen wait time
Legal	Prosecutors	Manages the cases as representative of State of Texas in conjunction with the Courts to determine the most equitable path to justice	25	
	Customer Service Rep	Research case information. Screen and identify the needs of officers, attorneys and citizens before interaction with prosecutors. Answer phone and direct inquiries to appropriate prosecutors. Perform case inquiries and interact with the system to add defendants to the system per prosecutor's request. Perform general clerical duties.	3	
	Supervisor / Manager	Oversee the training and day-to-day	5	

Entity	Role Title	Description	~ Number of Users	Comments
		management of prosecutors and staff. Access the system to build action codes, complaints in compliance with the state law.		
Defense Attorneys	Attorney of Record	Represent the citizen and have the authority to make all decisions related to the case.	~300	Some attorneys will submit large batches of cases that have to be scheduled for trial and delays in the Reset process can create unacceptable wait times. Also, attorneys need access to case records when representing their clients in the court room. If a docket contains a large number of cases where the citizens are represented by an attorney, each attorney will need to access their cases as the docket is "called."
Bonding Companies	Bondsmen	Post surety bonds for their clients and must respond to civil cases when their client fails to appear and the City initiates a NISI case	~50 - 100	Bondsmen will submit large batches of bond requests for large batches of cases and delays in processing the request can create unacceptable wait times.
Outside Collections Agency		Perform collection activity for the delinquent cases. Mail collection letters. Perform case receipts.	10	
3-1-1		Perform case inquiries to respond to citizens.	~100	Read only access. Performance of the system may impact their ability to provide services to citizens

## **Appendix C - Process Models**

**C-1 Case Management**

**C-2 Pre-trial Preparation**

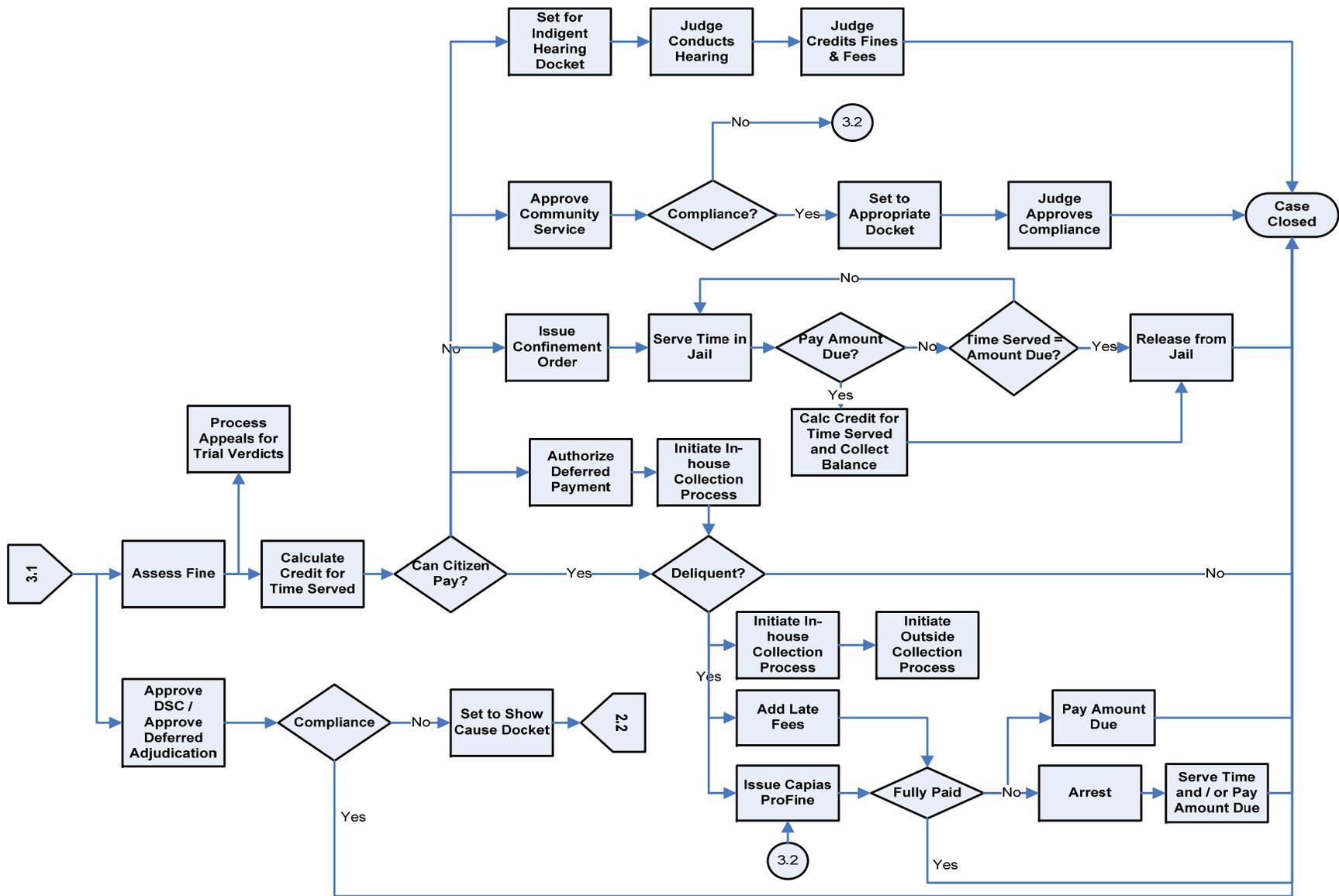
**C-3 Adjudication Process**

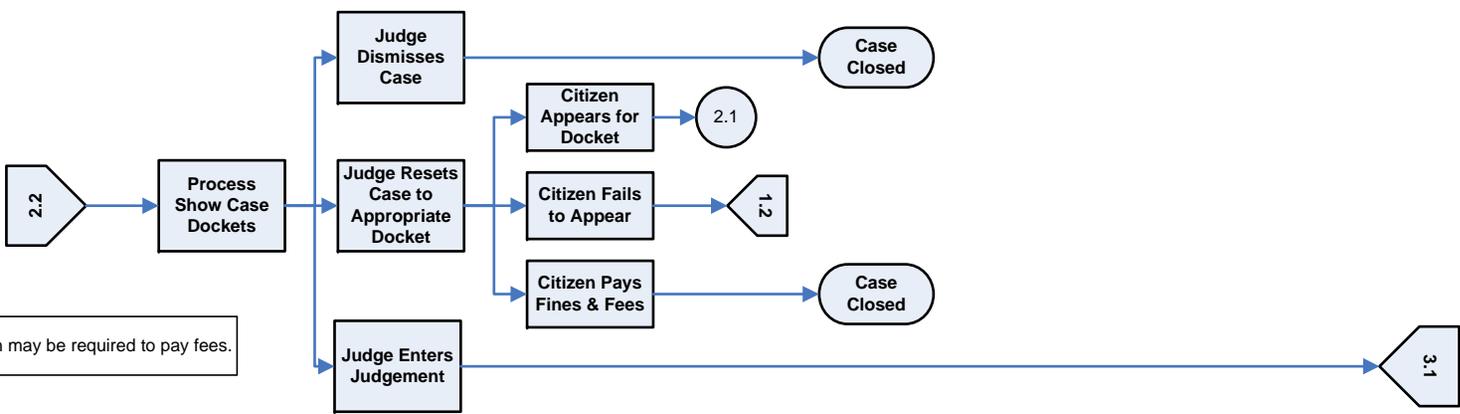
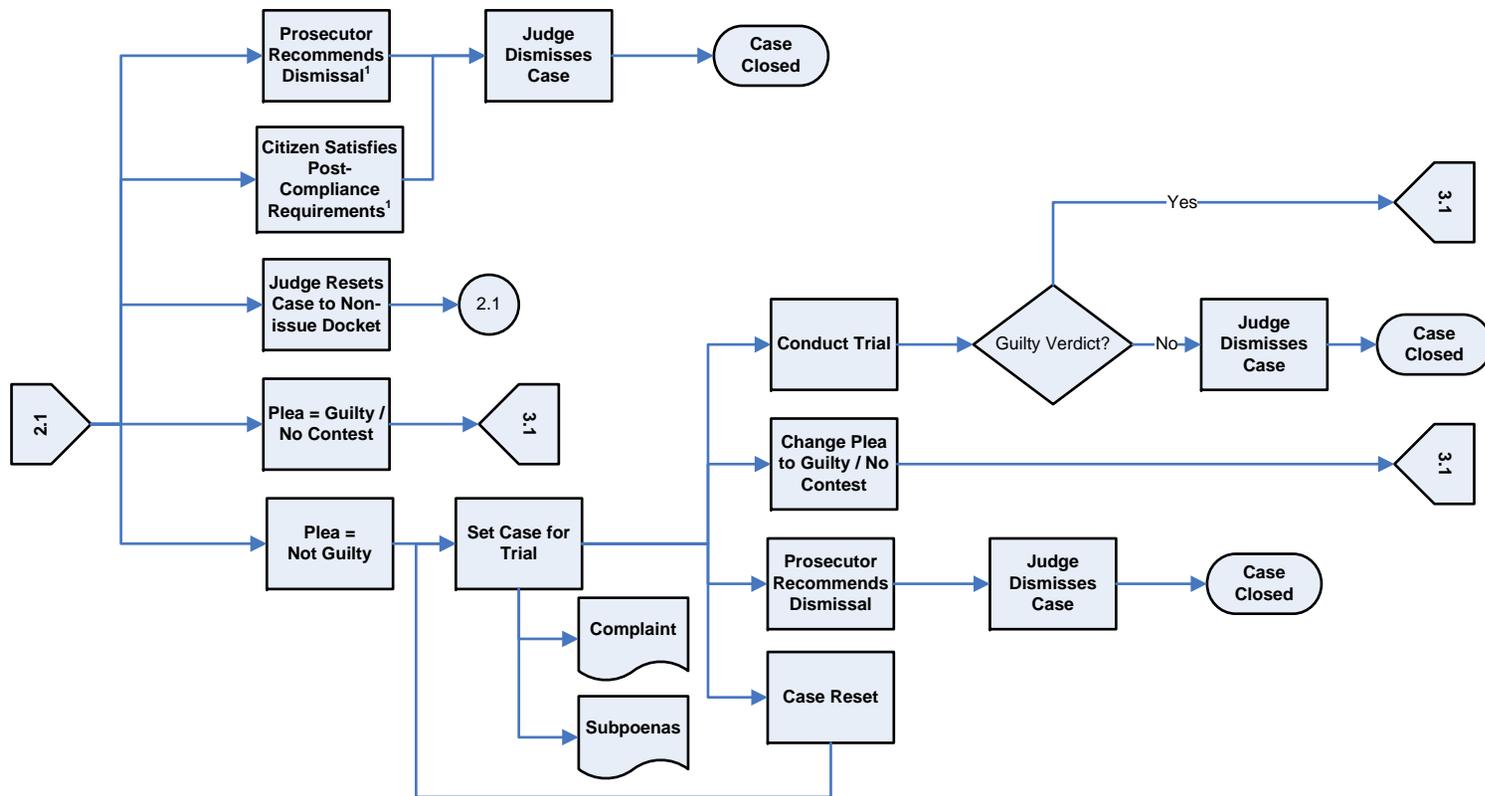
**C-4 Financial Operations**

**C-5 Jail Processes**

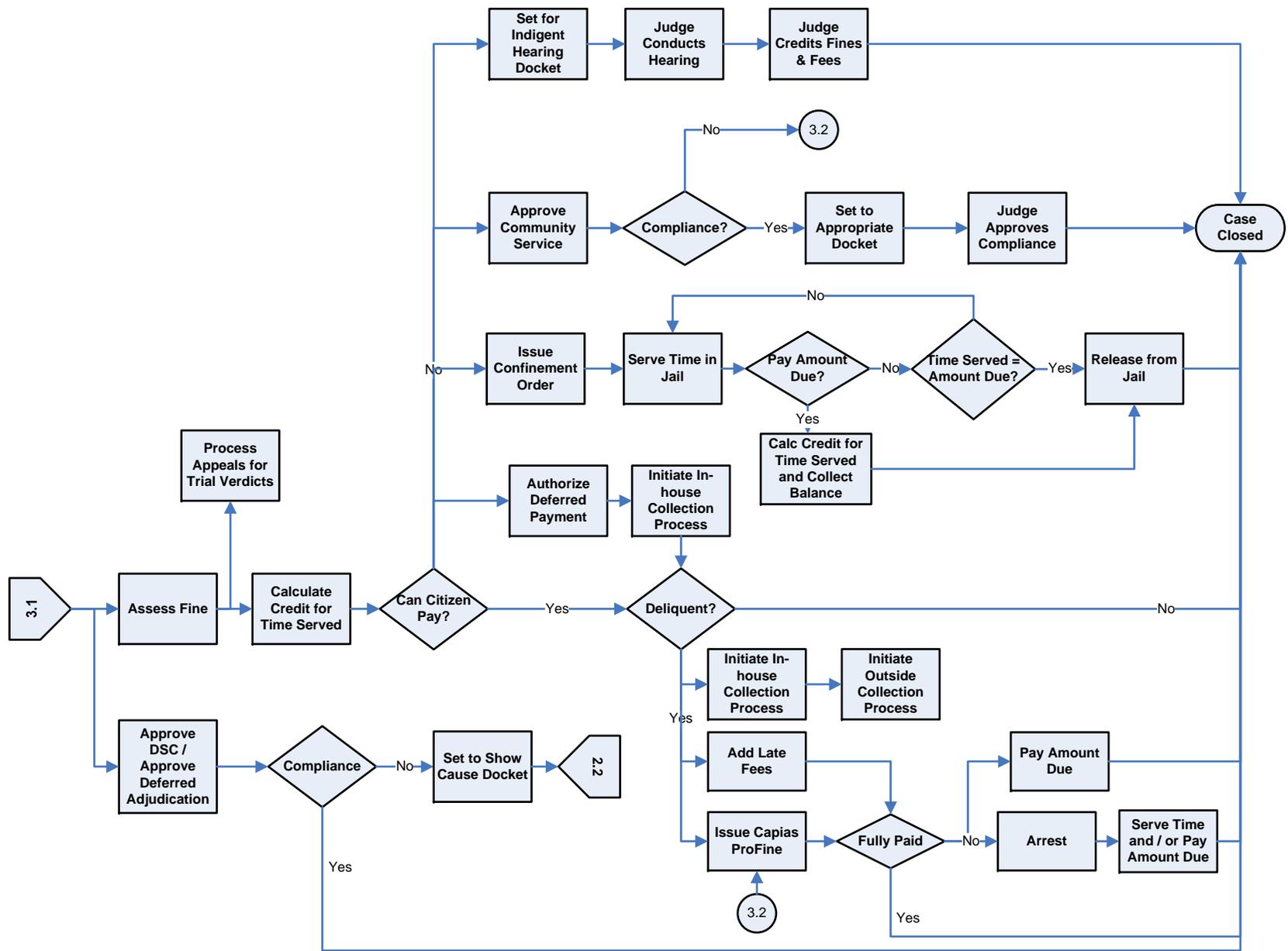
**Due to volume of documentation, distribution is being limited to project team members.**

# Appendix D - Case Life Cycle





<sup>1</sup> Citizen may be required to pay fees.



## Appendix E - Overview of Docket Management Process

Docket		Purpose	Key Inputs	Results
<b>Arrestment</b>	Case Initiation Outreach (Homeless) Jail Juvenile/Minor	ID defendant, review charges, accept plea  Post Compliance Dismissals with or w/o fee  For not-guilty plea, set trial and bond requirements  For no contest/guilty pleas, assess fees/fines plus specify method (e.g. cash, time served, community service, commitment to jail) and timing of payment, Grant DSC/Deferred Disposition and establish terms and timeline.	Image of Citation  Case History  Docket Roll Call for Jail Docket	Case Updates Reset for Trial/Non Issue  Schedule for Trial, Preparation of Complaint, and Subpoena for Witnesses, Applicable translator/court appointed attorney requests  Alternative Assessments (e.g. DSC, Deferred Disposition)  Commitment Order  Fees and Fine Assessment  Credits, Community Service Order, and Deferred Payments
<b>Hearings</b>	Indigency	Conduct hearing and enter ruling by judge	Case Record and Scan Images	Case Updates
	Pre-Trial			Non-compliance orders
	Expunctions			
	Property			Property Custody Assignment
	Dangerous Buildings			
	Administrative			
<b>Trial</b>	Bench	Conduct trial by judge, enter verdict in case record	Status of Witnesses & Prosecutor Comments	Case updates
	Jail			Operation of law resets/Non Issue
	Courtroom			Alternative Assessments (e.g. DSC, Deferred Disposition)
	Juvenile		Case Record	Fee and Fine Assessment

Docket		Purpose	Key Inputs	Results
	Jury	Conduct jury trial, enter minutes and verdict in case record	Status of Witnesses & Prosecutor Comment	
	Jail			Credits, Community Service, and Deferred Payments
	Courtroom			
	Juvenile / Minor		Case Record	Commitment Orders
	Open			
<b>Appeals</b>	Guilty Trial Verdicts	Provide defendant opportunity to appeal error	Case Record/Timeline	Affirm, Reverse, Remand
<b>Non-Compliance</b>	Capias Pro Fine	Allow judge to review cases that meet criteria for issuing warrant and authorize issuance of warrant	Case Record	Issue Warrant or Reset
	Warrants		Clerk's Certificate, Case Record	
	Show Cause	Provide defendant opportunity to explain non-compliance and comply with Judge's instructions		Issue Capias Pro Fine and associated warrant or Reset, Dismiss/assess fine if applicable, reset to appropriate docket
	DSC		Case Record, List of Missing Compliance Requirements	
	Deferred Payment		Case Record, Payments History, Contact Records	
	Community Service		Case Record, Service History, Contact Records	
	Deferred Disposition		Case Record, List of Missing Compliance Requirements	
	Community Service Partial	Determine action for not completing specified community service hours required to compensate City for fees and fine assessed on a case	Case Record	Issue Capias Pro Fine and associated warrant or Reset, Dismiss/assess fine if applicable, reset to appropriate docket
	Underpayment/Overpayment	Determine action for underpayment of fees and fines assessed on a case.	Case Record	Issue Capias Fine/Close Case
Paid-in Full / DPS Due	Approve reporting non-payment of DPS Fee to DPS		Issue Capias Fine/Close Case	

Docket		Purpose	Key Inputs	Results
	Non-Issue	Determine if defendant has complied with Judge's instructions and either dismiss case or assess penalty	Case Record/Scan Images	Fine Assessment/Deferred Payment, Alternative Assessment, Post Compliance Dismissal w/ or w/o fee
	(Non Issue) Proof or Pay			
	RID			
	Other			
<b>Non-Compliance continued</b>	Bond Forfeiture (Scire Facias)	Conduct Civil Procedure to enforce City's right to seize either Cash or Surety Bond that was posted for a specific case	NISI Case File	Judgment
<b>Close Case</b>	Prosecutor Nolle	Allow judge to review prosecutor's recommendation and dismiss case	Case Record with Prosecutor Recommendation	Case Closed or Reset with instructions
	Paid-in Full	Allow judge to verify that defendant has paid fees and fines without arraignment and close case	Case Record with Payment Information	Case Closed or Reset with instructions
	DSC Dismissal	Allow judge to verify that defendant has complied with DSC requirements and close case	Case Record, evidence of Course Completion, Drivers Record, and Affidavit	Case Closed or Reset with instructions
	Deferred Disposition	Allow judge to determine that defendant has complied with judge's instructions and close case	Case Record, evidence of Compliance with Deferred Disposition Requirements	Case Closed or Reset with instructions
	Registration, Inspections, Drivers Licenses (RID)	Allow judge to verify that defendant has provided sufficient proof of having appropriate RID and close case	Case Record, evidence of valid Registration, Inspection, or Drivers License	Case Closed or Reset with instructions
	NSF	Allow judge to verify that defendant has not paid fees and fines	Case Record with Payment Information	Issue Capias Pro Fine and associated warrant
	Special Disposition (Special Projects/Events, Natural Disasters)	Allow judge to verify compliance or review prosecutor's recommendation for dismissal	Case Record with Prosecutor Recommendation	Case Closed or Reset with instructions
	NISI Defaults, NISI No Bonds, NISI Review	Allow judge to verify defendants non appearance/non response	Case record	Order of Forfeiture

Docket		Purpose	Key Inputs	Results
	True Identity Motions/Delinquent Status Only	Allow judge to verify that defendant has provided sufficient proof of identity	Case Record, evidence of valid identify proof	Case closed, left in delinquent status, or reset with instructions
	Inmate Motions	Allow judge to verify that defendant has served appropriate amount of time in a certified facility	Case Record, evidence of valid incarceration/detention	Case closed, left in current status, or deferred payment instructions
	DSC Applications by Mail	Allow judge to review documents submitted for qualifications	Case record, evidence of qualifications	DSC Order of Compliance
	Deferred Disposition Request by Mail	Allow judge to review documents submitted for qualifications	Case record, evidence of qualifications	Deferred Disposition Order of Compliance
	Conditional Pleas	Allow judge to review signed plea and amount in holding	Case record	Order bond disposed and receipted as fine

**Note:** The Docket Management process requires an electronic and hardcopy docket for each instance of a docket on the court schedule. The format of the docket will vary by type of docket. The information provided on the electronic docket needs to be updated on a real-time basis as events occur that change the status of a case. For example, if a defendant pays the window fine amount while the docket is being processed by the judge, the case update should occur immediately so that there is no confusion regarding the status of the case and the need to issue a Failure to Appear (FTA).