

Information Networking Hub

Overview

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1. STRATEGIC PLAN

The long-term vision for the Judiciary's application environment is one in which efficient and nearly seamless interoperability between diverse applications, tools, and databases is achieved through the interchange of shared data. Components used in this environment leverage services provided by implementation of standards that enable them to expose and interchange their data.

The following describes the desired application architecture for maximizing interoperability to other applications via the INH. Section 1 describes a conceptual model for an application that will interoperate with existing and future applications via the INH. Section 2 describes general features of the INH. Section 3 provides an overview of the categories of interaction between the SC-CMS and the INH. Section 4 presents a high-level depiction of how the INH will facilitate the interaction between the existing AOC application, the SC-CMS, and other local applications.

1.1 FUTURE STATE OF THE APPLICATION ARCHITECTURE

The Future State of the Application Architecture is a fairly straightforward concept, but is a vast departure from how ISD has operated in the past and to some extent how we operate today. A key concept in this architecture is to separate each functional application area into its own compartment. This will allow for more generic smaller components that will lend themselves to reuse and integration with existing and future applications using AOC INH. This model also shows that the Application Architecture does not work in isolation. It is integrated with the Security, Information, and Infrastructure Architectures. The Application Architecture works closely with these other architectures to that ensure solutions are compatible across architecture domains. The eight segments of the application architecture (Access Layer, Enterprise Service Bus [ESB], Engines, Integration Broker, Application Program Interface [API], Transaction Integrity, Aggregate Services, and Business Intelligence) perform independent functions and should remain separate. Keeping these functions separate creates an opportunity to develop plug-and-play applications.

- 1.1.1 The Access Layer will control the methods by which our business partners access AOC services. Application boundaries will be hidden by using a common user Access Layer. The Access Layer itself will be an application and will be adaptive to the user role and preferences. The focus of applications will be to optimize business processes and work flow as opposed to collecting and reporting on data.
- 1.1.2 The ESB is a message-based integration architecture that includes services such as routing and transformation for enabling integration of distributed or loosely coupled services. The translation and communication between AOC application infrastructure and the end user infrastructure takes place in the ESB.
- 1.1.3 The Engines segment refers to the core of a computer program. Software Engines, which drive the functionality of the application, are distinct from peripheral aspects of the application, such as look and feel. Engines are typically focused on specific process types (e.g., search engine). Separating the front-end look and feel from the software Engines allows

for more adaptability and plug-and-play abilities in maintaining applications. These Engines components are available to any application that needs the function supported by the engine. This allows reuse of existing application resources. Examples of applications Engines are the rules engine, events engine, and work flow engine.

- 1.1.4 The Integration Broker segment links diverse/silo applications within the enterprise together in order to simplify and automate business processes to the greatest extent possible, while at the same time avoiding having to make sweeping changes to the existing applications or data structures. This will address the problems that exist where data for one system cannot be shared by a different application.
- 1.1.5 The API is an interface implemented by a software program to enable its interaction with other software. APIs create a common and reusable interface between an application and its services and another application. The use of API interfaces is a desired goal for the simplification of accessing services between different applications.
- 1.1.6 The Transaction Integrity segment is a critical component for dealing with complete and accurate data processing. It is imperative that the data process for a transaction only be created, deleted, or updated if the entire transaction completes successfully. If a transaction fails at any point, the data modified during this unsuccessful transaction needs to be rolled back to the pre-transaction state. The Transaction Integrity segment components ensure this data quality and accuracy. A by-product of Transaction Integrity is a log of transaction activity that can be shared to other downstream data repositories for consistency in reporting and data warehouse analytics.

1.2 INH STATEWIDE DESIGN

The INH has been designed to provide statewide information and a seamless interchange of data between application systems. It will serve as a universal integration point between applications and will provide common business, data, and reporting services by acting as an information data repository and exchange broker.

- 1.2.1 The main goal of INH is to establish an “Integration Model” through unified data, business, and technology processes. This model provides services to integrate applications using a statewide federated model. The integration results from sharing data between business units to present a common face to the customer. The Integration Model will allow AOC to integrate many applications and services, improving standardization of business processes across all levels of courts and all jurisdictions. This model is the best fit for Washington Courts, since it encourages, but does not mandate, standardization. It also provides the best support for integrating centrally managed and local systems through the sharing of data and business services.
- 1.2.2 In order to achieve this future operational state and improve the quality of the services provided to AOC customers, the enterprise architecture team

introduced the concept of information networking. Information networking embodies two key competency areas – implementation of the master data management including data quality, data governance, and unified data model, and the migration of data exchanges. The new information networking model is focused on sharing data and connecting centrally managed data with local applications. The Strategy and Road Map also provides the standards by which applications are required to communicate to support interoperability.

- 1.2.3 AOC has an existing JIS consisting of applications and data repositories. AOC anticipates the implementation of a new set of applications and data repositories. These new applications and repositories are expected to eventually replace the existing ones. INH will support the migration and upgrade of systems by allowing them to coexist and to share information.
- 1.2.4 The primary purpose of the INH is to provide the authoritative source for person information and a trusted source for case information. Person information is updated by all courts statewide from multiple applications, thus requiring that a single version of the authoritative information be maintained in the INH. Case data for any given court is maintained by that court only, so the INH needs a copy that can be shared with other courts. The central hub model of sharing reduces the number of integration points and frees courts from the responsibility of sharing data with all other courts.
- 1.2.5 Another important objective of the INH is to standardize data and provide a unified method for providing information. The INH will implement this through the use of the National Information Exchange Model (NIEM) for exchanging data; data standardization to reconcile disparate data from multiple sources; and data governance processes for data quality improvements.
- 1.2.6 The INH will be implemented in a phased approach that provides continuous improvement to the data flow between Washington Court systems. The road map in the following section will provide high-level guidance on how to approach the implementation.

1.3 SERVICE CATEGORIES

Services can be further organized into service categories. The services are critical components of integration between SC-CMS using the INH. They will provide the comprehensive set of data exchanges that are bidirectional and near-real-time, as necessary. The following is a description of the service categories and an example of SC-CMS usage. A complete list of integration services is provided in the Requirements section of this RFP.

1.3.1 Maintenance of JIS Entities

Services for the maintenance of JIS entities (i.e., persons and organizations).

Currently all JIS applications are integrated at the database level. All write to a shared statewide database, in real time. This will change with

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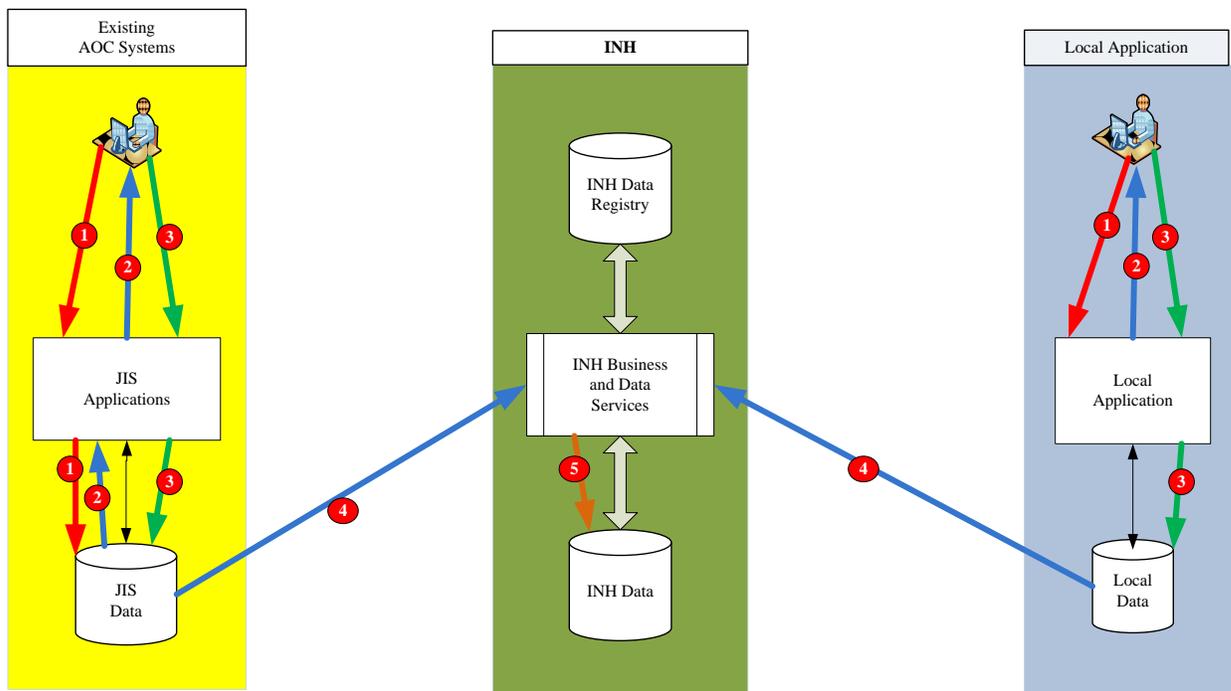
the installation of the new SC-CMS, as well as for any court (such as Spokane Municipal Court) that chooses to leave JIS for a local system.

An in-custody defendant (John Doe) is brought before Court for filing and subsequent processing of a court case. To file the case:

- Court needs access to person data from the shared person database.
- The shared person database needs to be updated with any new person information known by Court (such as an address change, if John Doe is already in the shared person database, or, if not, all available person information known by Court).

Through real-time messaging, the INH will receive all person information from the JIS, plus, in the future, from any application that may not interact directly with JIS (such as that planned at Spokane Municipal Court). Court will be able to access that INH information to allow a search of all identified individuals statewide for a match with the defendant before the court.

If a match is identified, County can employ the person information received from the INH for creation of Court's electronic case, thereby (1) avoiding creation of a false duplicate person and (2) streamlining data entry. In turn, County will send the new person information (such as address change) or new individual (if no match was found) to the INH, where all courts will have access to complete and current person information.



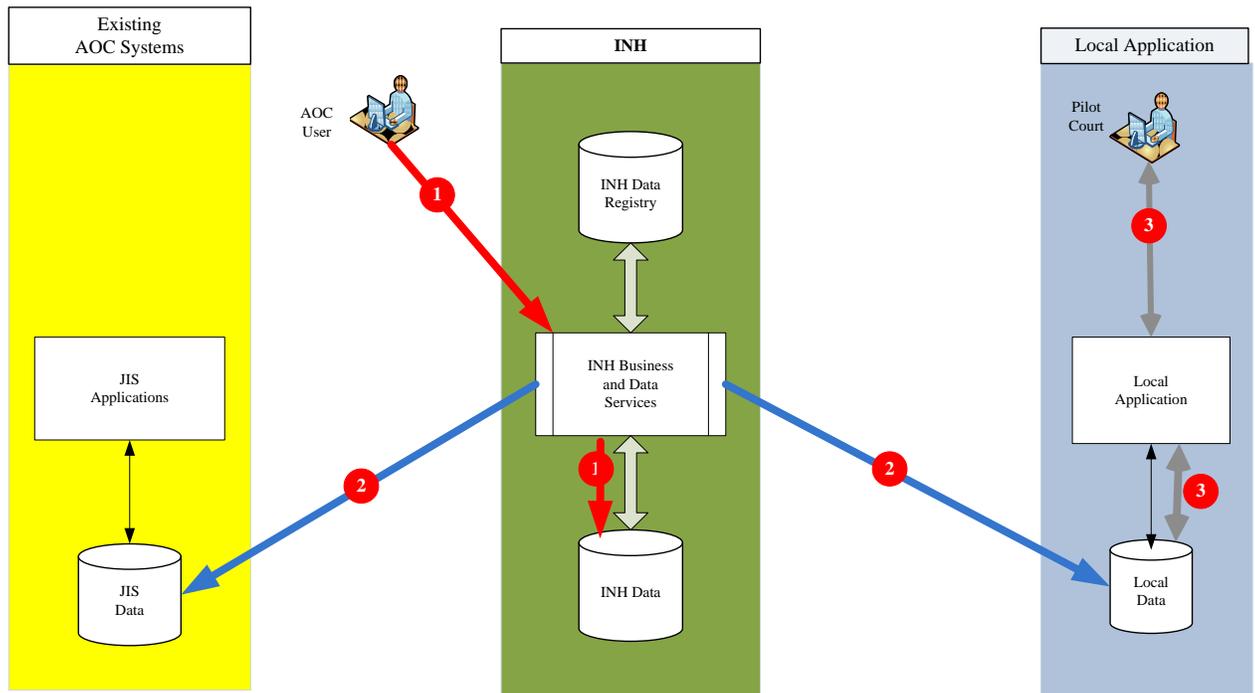
Scenario

- 1 – User submits person query for John Doe to application.
- 2 – Application sends query to INH service requesting person data.
- 3 – INH responds to requesting application and User – John Doe not found.
- 4 – User adds John Doe; application sends data to INH.
- 5 – INH adds John Doe to INH database.

1.3.2 Synchronization of Common/Reference Data

Updates to reference data such as law data, financial fee splits, and the like are required on a regular basis. For example, new legislation and/or RCW records require that new entries be made to the JIS law database. With the messaging of law updates to the authoritative data stored in the INH, all courts (whether employing JIS, a local system, or the new SC-CMS) can receive those updates for employment/incorporation locally.

John Doe was brought before Court on a felony charge of “Unlawful Trade in Shark Fins 1st Degree.” Because that law was only recently enacted by the legislature, it may not appear in the SC-CMS law database. This will prevent the court from entering the charge. However, updates to the JIS law database will be communicated to the INH, where messaging to the SC-CMS allows SC-CMS to update its laws. Court can now enter the new charge.



Scenario

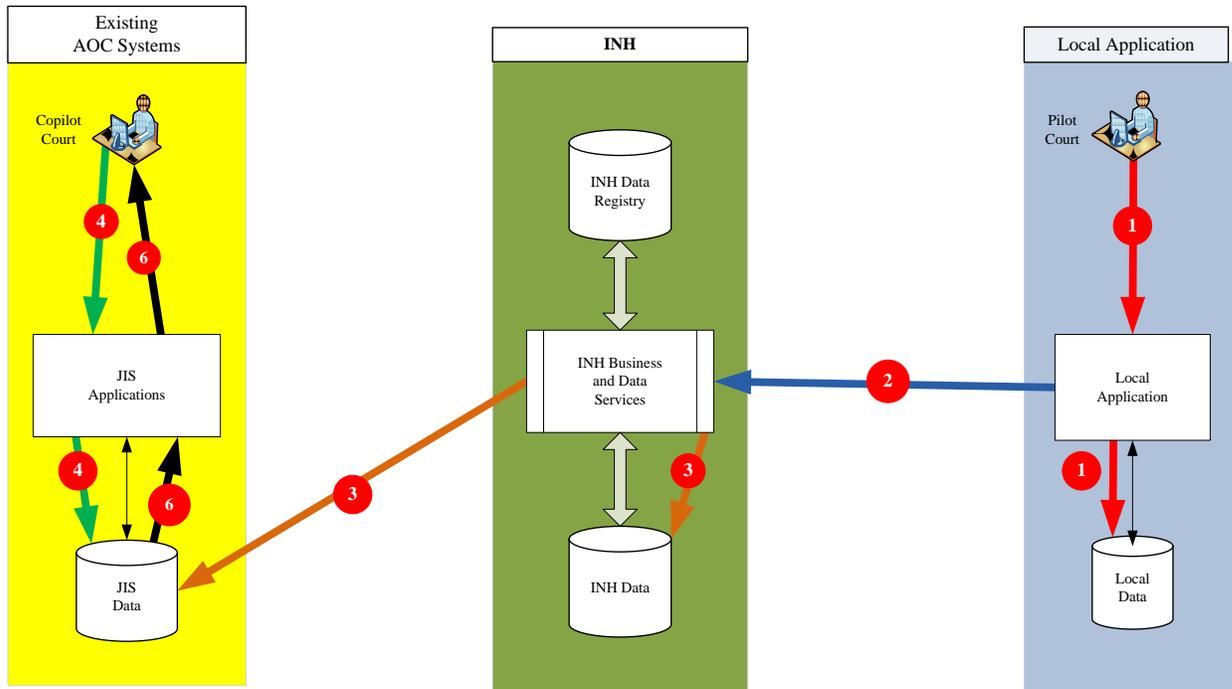
- 1 – AOC/Court User adds new law to law reference data in the INH.
- 2 – INH sends new law to JIS and to the local application. (INH publishes law data to local applications.)
- 3 – Court user files charges using new law.

1.3.3 Centrally Mandated Data

Services for courts to provide and receive centrally mandated data (JIS Official Record, including criminal history).

John Doe has been convicted in Court, and a Court judge is considering John Doe’s full criminal history in order to determine an appropriate sentence. To consider all convictions statewide, Court will need to be aware of convictions in JIS, other SC-CMS courts, and any court that may use a unique local computer system. Through real-time messaging, all criminal history updates can be sent from any of these sources to the authoritative INH data repository. Due to established INH data standards and data transformations, the authoritative INH data is consistently presented and interpreted, despite differences in source data.

As an example, JIS courts may use “G” to indicate a conviction, while a local system may use “C.” Data standards (reinforced by quality assurance measures) ensure that both designations are represented in the INH as, for example, “G.” Therefore, the Court judge will be able to interpret the statewide information received from the INH, despite underlying (and transparent) differences in the original data stored at the source locations.



Scenario

- 1 – Court enters John Doe conviction data using conviction code “C.”
- 2 – Court application sends conviction data (using “C”) to INH.
- 3 – INH receives John Doe’s conviction data, transforms “C” to “G” using reference data and business rules, and stores the information in INH data.
- 4 – Court requests John Doe’s criminal history.
- 5 – JIS application queries JIS data and INH data.
- 6 – JIS and INH return criminal history for John Doe; Court’s John Doe conviction shows a conviction code of “G.”

In turn, once Court’s sentencing decision is coded into the court’s SC-CMS application, it will be messaged to the INH repository to be included with the full statewide criminal history information accessible by all courts across the state.

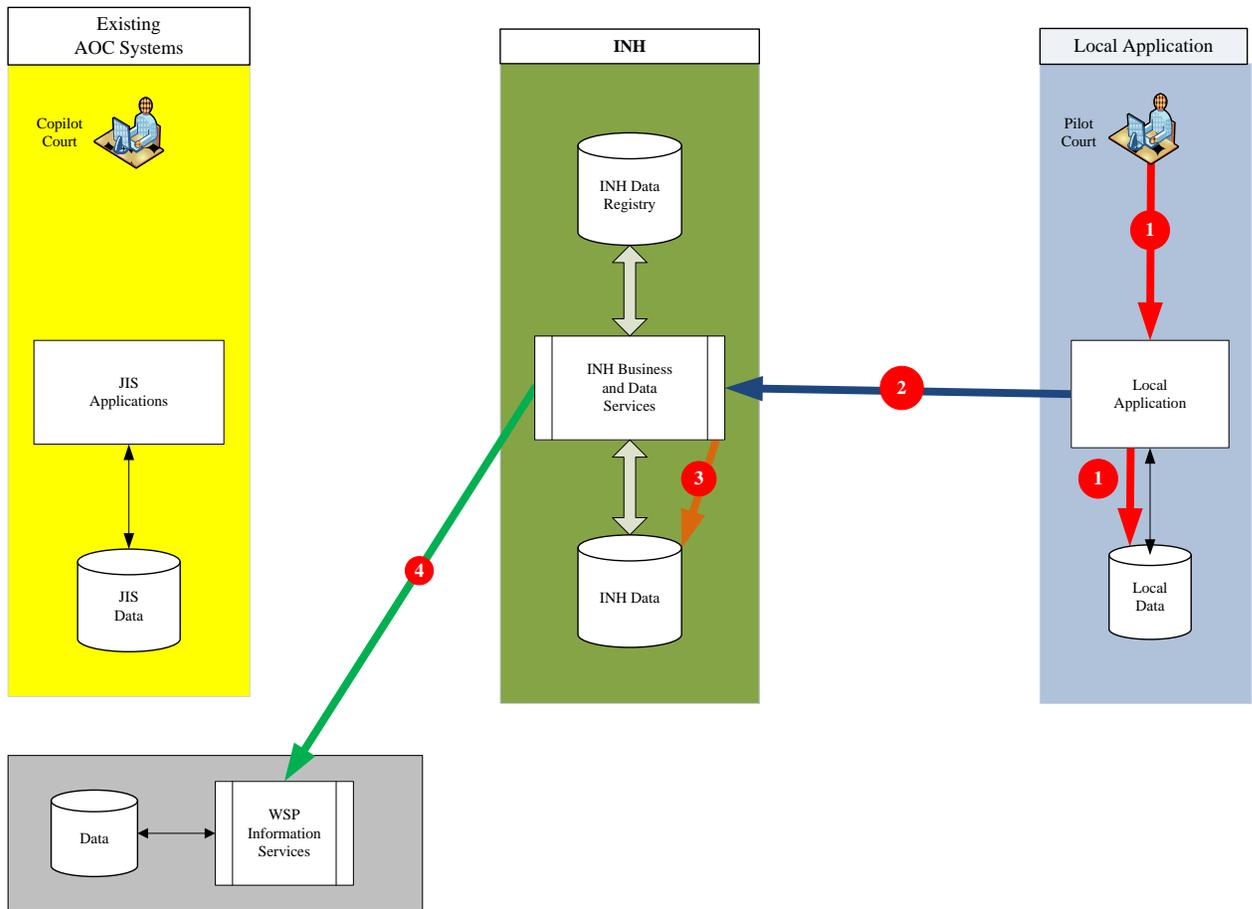
1.3.4 Interface Support With Justice Partners

Services to support interface with justice partners (Department of Licensing [DOL], Washington State Bar Association [WSBA], etc.) and brokering of data feeds from/to the courts’ external partners.

Washington’s Courts currently undertake data exchange with a variety of criminal-justice partners, including the DOL and Washington State Patrol (WSP).

WSP needs to know about all felony convictions, including the guilty verdict handed down by Court to defendant John Doe. To prevent WSP from having to receive felony conviction information from multiple systems (JIS, the new SC-CMS, and local systems), WSP will simply receive information from the INH. All convictions are presented in a standardized way, regardless of the source computer system.

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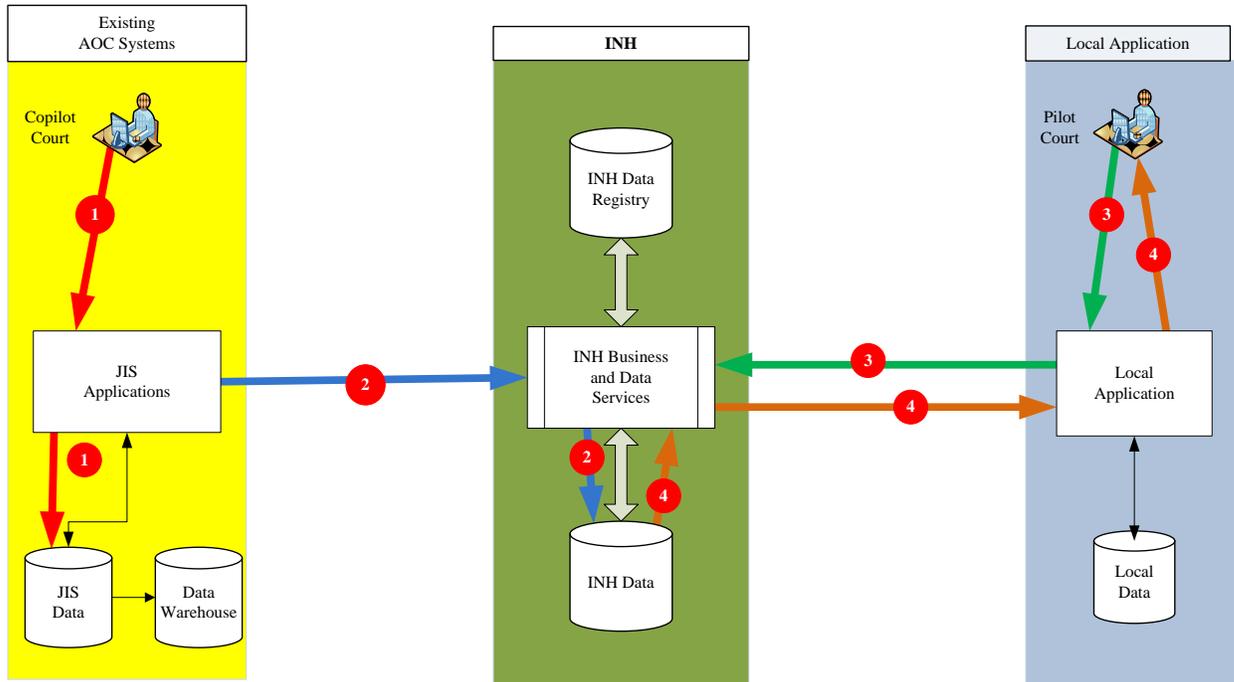
Scenario

- 1 – Court enters John Doe conviction data using conviction code “C.”
- 2 – Court application sends conviction data (using “C”) to INH.
- 3 – INH receives John Doe’s conviction data, transforms “C” to “G” using reference data and business rules, and stores in INH data.
- 4 – INH sends John Doe’s conviction in Court to WSP using “G” conviction code.

1.3.5 Collection and Dissemination of Statistical and Reporting Data.

Statewide reporting becomes cumbersome, at best – and unreliable or impossible, at worst – if information from different computer systems (such as JIS, SC-CMS, and local systems) is coded in different ways. Due to established INH data standards and transformations, the authoritative INH data enables uniform, consistent presentation of information across all courts.

Court (or AOC, justice partners, or other) can receive uniform data for reliable reporting of, for example, all persons convicted of “Unlawful Trade in Shark Fins 1st Degree” across the state since the law’s inception.



Scenario

- 1 – Court has entered 75 case convictions for “Unlawful Trade in Shark Fins 1st Degree” since the new law’s inception.
- 2 – Each conviction is sent to INH when it is entered by Court.
- 3 – Court User wants to know about other courts’ experience with new law and sends query through local application to INH.
- 4 – INH sends results back to Court User through Court application.

1.3.6 Application–Integration Services for SC-CMS Rollout

Services to enable application-integration services to facilitate SC-CMS rollout.

JIS (specifically, SCOMIS – the Superior Court Management Information System) does not include the social file (detention, diversion, probation, and all “non-case” information) for juvenile offenders. However, JIS has point-to-point linkages with the Juvenile and Corrections System (JCS). These allow reuse of JCS information for filing of the JIS case without requiring redundant information gathering and duplicative data entry.

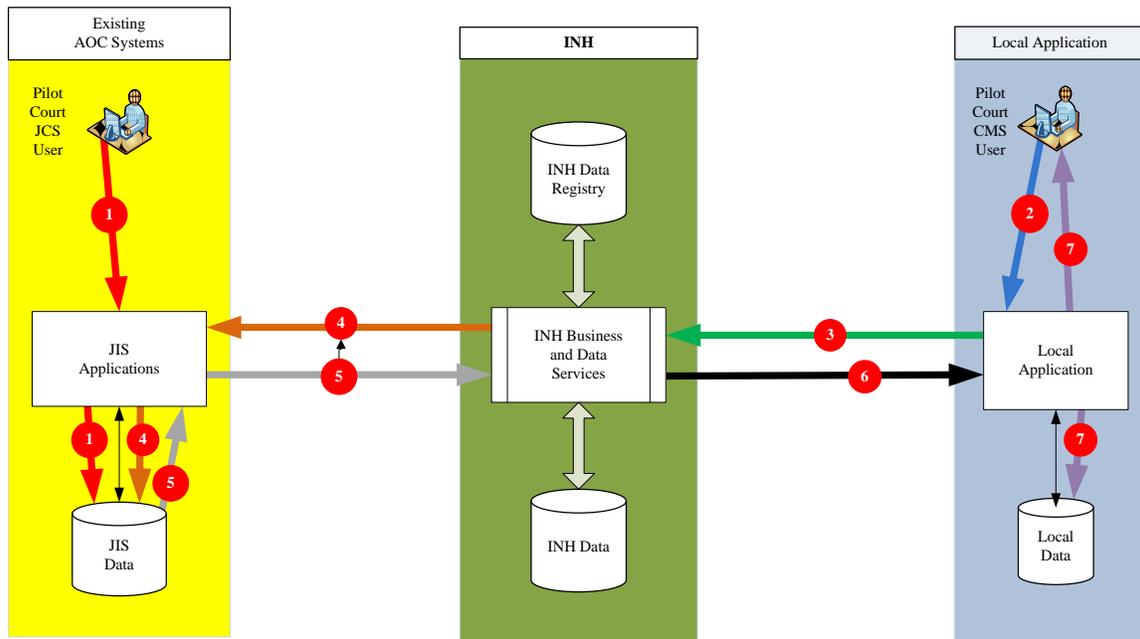
The scope of the SC-CMS project, like core SCOMIS, does not include the social file for juvenile offenders. To prevent a loss of functionality for SC-CMS courts, information exchange to and from JCS will have to be established. One approach will be to establish point-to-point linkages parallel to those operating between SCOMIS and JCS.

However, this approach will expand the number of independent data exchanges. The expansion will rise dramatically with the need for Court to link, as well, to historic JIS case information, plus the need for similar point-to-point linkages between local court systems and SC-CMS data,

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and between local court systems and JCS data. By providing a single authoritative source of data, the INH avoids the need to proliferate point-to-point connections, which require intensive maintenance and are prone to inconsistencies.

Court SC-CMS User wants to file a juvenile offender case for John Doe using the referral filed in JCS. Court JCS referral information will be transmitted to INH, where it will be transformed for interpretability. Court SC-CMS will now be able to access the JCS information for use in completing the juvenile offender filing. Data for both case information and the social file (JIS, SCOMIS, JCS, local systems) can be used by accessing statewide data available in the INH.



Scenario

- 1 – Court JCS User enters juvenile referral for John Doe in JCS.
- 2 – Court CMS User wants to file juvenile criminal case for John Doe using referral in JCS.
- 3 – Court CMS requests John Doe’s referral information through INH.
- 4 – INH requests John Doe’s referral information from Court JCS.
- 5 – Court JCS returns John Doe’s referral to INH.
- 6 – INH transforms and sends John Doe’s referral to Court CMS.
- 7 – Court CMS User completes John Doe’s criminal case filing.

1.3.7 Interchange of Local Court Data

Services to enable interchange of local court data (images, orders, etc.) – sharing of data between courts via information registry.

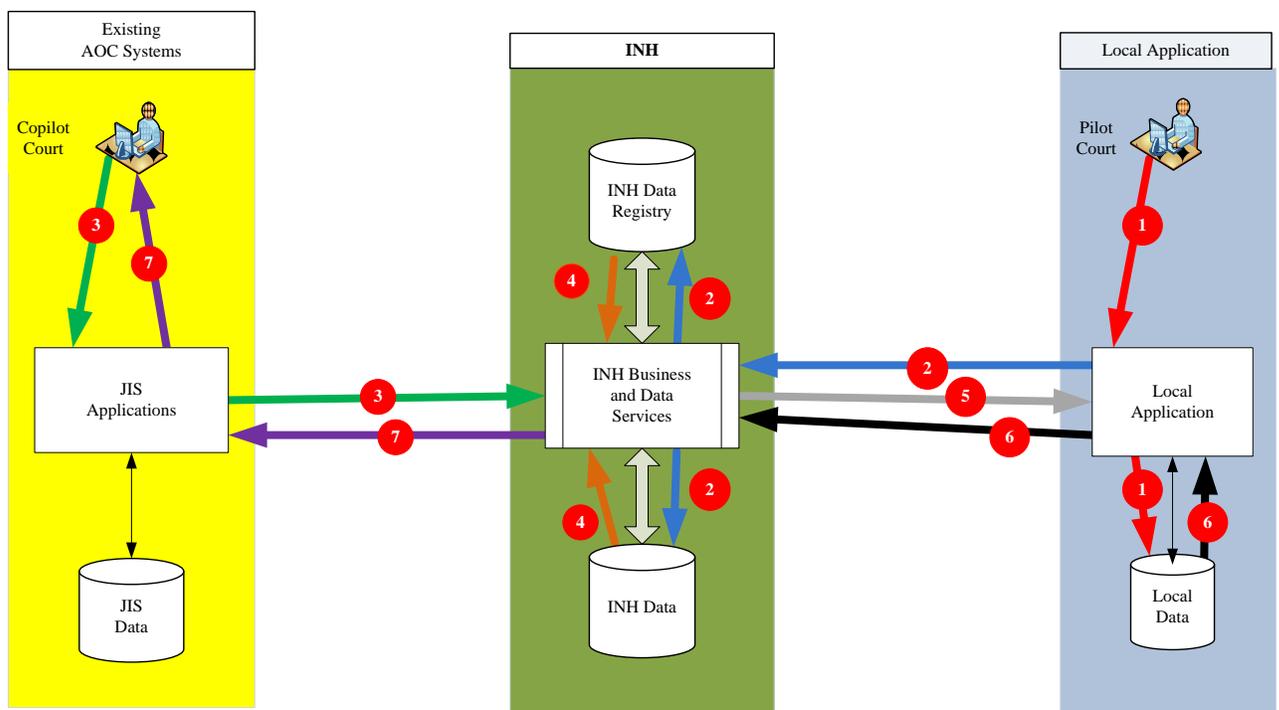
During a preliminary hearing for John Doe’s malicious mischief case, the Court judge observes that Mr. Doe is currently restrained by a domestic violence order in the neighboring county. Mr. Doe asserts that the judge is in error and that he is actually the protected, rather than the restrained,

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party. To determine whether there may indeed be a data entry error, the judge needs to look at the full domestic violence order.

Currently, the judge will need to contact the neighboring county and request that the order be sent to Court. The proceeding will have to be recessed until after the order is received, when it can be rescheduled. This delay consumes time and resources for the court and for all parties to the case.

Considerable efficiency could be achieved if Court could instead immediately access an electronic copy of the judicial order. This could be made possible through an index (registry) maintained in the INH that will allow retrieval of an electronic document that is stored in the neighboring county's local data. County will submit the request to the INH. The INH will retrieve the document from the neighboring county, and transmit it on demand to County.

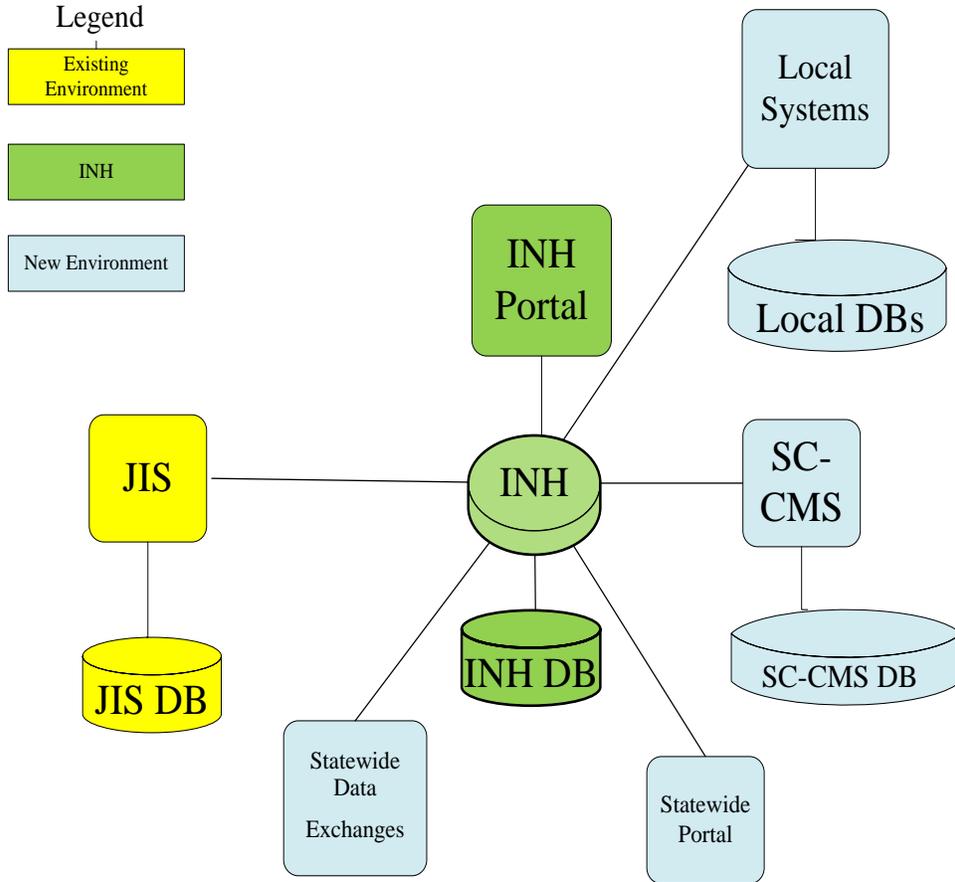


Scenario

- 1 – Court has entered and imaged a domestic violence order on a case involving John Doe.
- 2 – Court application sends docket information about the order and the image location to INH.
- 3 – Court judge sends to INH a request to see Court's domestic violence order for John Doe.
- 4 – INH retrieves docket information about the order and the order location in Court.
- 5 – INH sends request to Court application to get image of the order.
- 6 – Court application retrieves the image and sends to INH.
- 7 – INH receives the image, packages it with docket information, and sends information and image to Court judge.

1.4 INH INTERACTION

The following diagram provides an example of how the INH will facilitate the interaction between the existing AOC application, the SC-CMS, and other local applications:



2. TACTICAL PLAN

This section articulates an overarching tactical vision of the INH project being developed by the AOC. It gives the end-state vision of the INH itself, along with a brief overview of the project being administered by the AOC to achieve this end state.

2.1 PROJECT BACKGROUND

The INH project is focused on allowing the agency to meet its data exchange needs through a centralized hub-and-spoke model for information sharing. Sharing court case information across the state is complicated, as different jurisdictions use different CMSs. The INH project was established to help bridge this gap and make information sharing easier by establishing a consolidated repository of court information and making a set of exposed “Services” or transaction interfaces available to the state’s CMS portfolio.

The INH project will gather the requirements needed to support the building of a robust enterprise architecture capable of handling messages from disparate systems with one common messaging standard and a uniform data model. This project will involve a core team of internal resources with the experience and knowledge of existing JIS systems and the future state architecture. External resources that have the technical knowledge and real-world experience of building and deploying an enterprise data exchange solution in production will also be hired to assist with the implementation.

2.2 PROJECT GOALS

The project has a series of goals that are interdependent with other agency projects and priorities. These goals as a whole can be summarized as follows:

- SC-CMS Integration – Integrate legacy system data with new system data.
- Central Record Access – Provide access to statewide court records from a single place.
- Local Agency Integration – Provide a facility to integrate the centralized AOC systems with local agency systems (LINX, Seattle Muni, Spokane, etc.).
- Data Quality Automation – Automate improvement of court records and resolution of potential data conflicts.
- Centralized Peer State Agency Integration – Provide a single point for integrating with peer state agency systems.

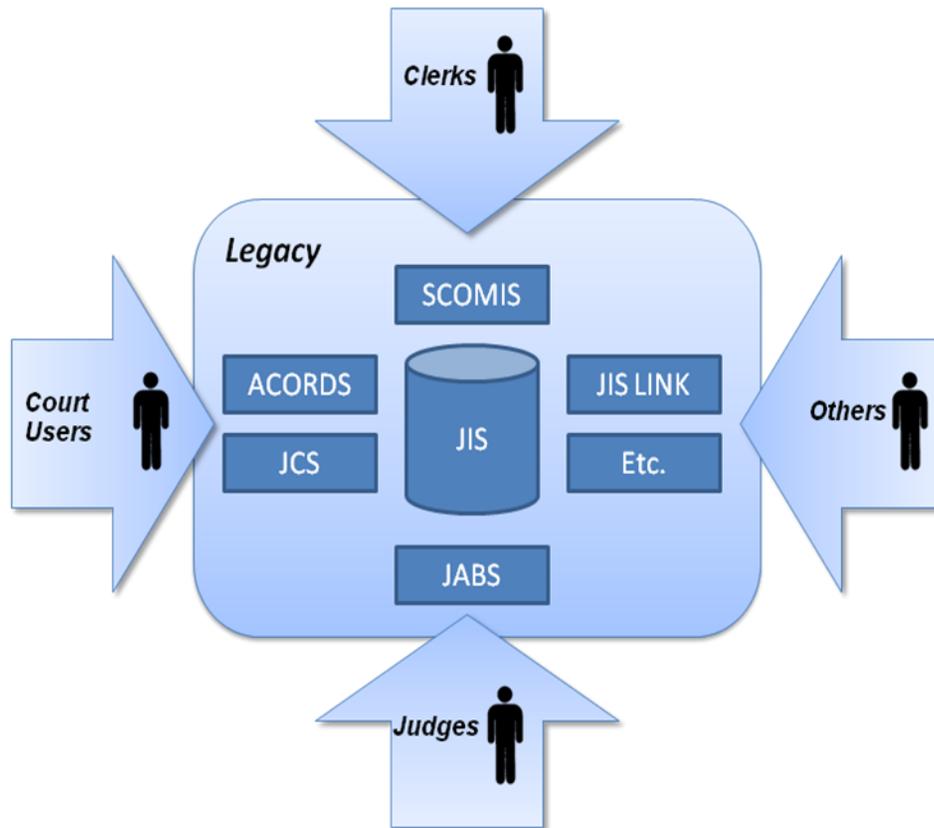
2.3 CURRENT ENVIRONMENT

The current or legacy environment exists without a dedicated data-sharing platform and instead relies heavily on data sharing through connectivity to a common or shared database. While the organization has experienced tremendous success in sharing information in this manner, it has made the migration to a fully decoupled hub-and-spoke information-sharing model rather complex. Any system which migrates away from this shared database leaves a hole that must be

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filled, lest the other applications reliant on that data cease to function. It is also difficult to know exactly what data is used by the various applications connected to the shared database.

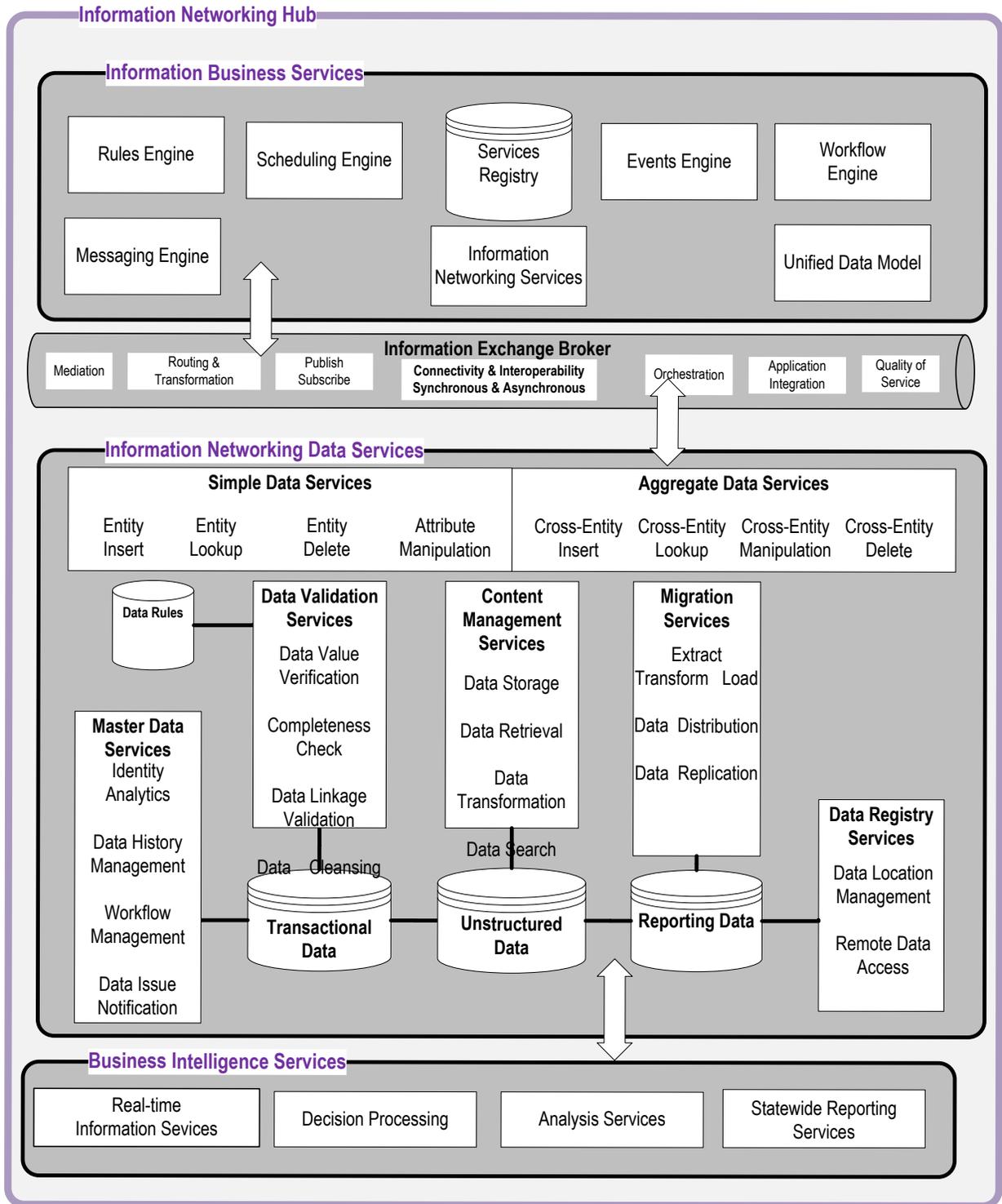
The following diagram depicts this shared environment, where the JIS is the shared data repository, and all boxes surrounding it rely on data it contains.



2.4 FUTURE VISION

The future environment is envisioned to better support a decentralized data set and better enable the agency to share information on demand with its information stakeholders. Through the implementation of a hub-and-spoke model for information sharing, the agency expects that multiple case management systems should be capable of sharing information with the courts.

Over the past year, the architecture team at the AOC has discussed and refined the following diagram depicting the long-term architectural vision and components of this new INH.



From an industry perspective, the INH is a hybrid between a centralized Identity Management product suite and an ESB implementation. It also contains aspects of business intelligence and content management, which may extend beyond what

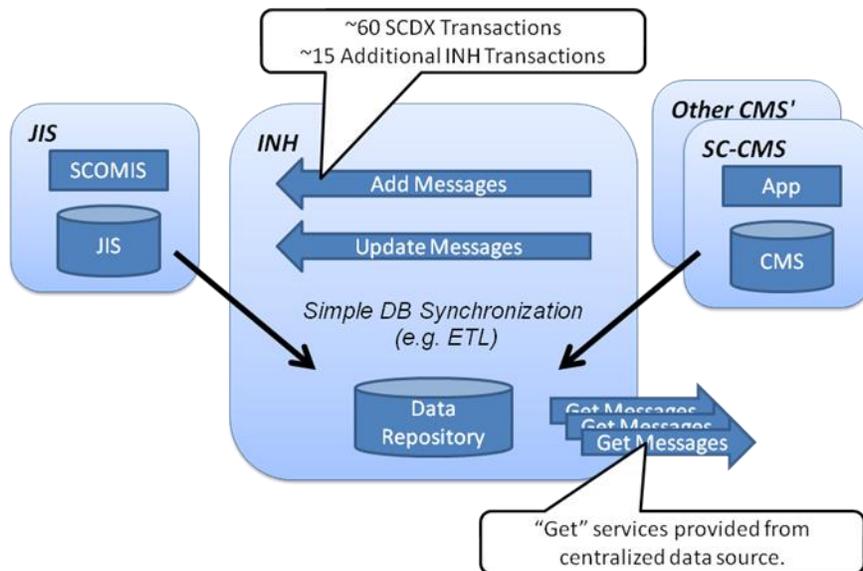
is traditionally categorized under these two product areas. The project teams and schedules are anticipated to reflect this delineation.

2.5 PROJECT APPROACH AND INITIAL ENVIRONMENT

Knowing that not all components can be deployed in the short term, the agency has identified a more immediate vision of readiness that encompasses required functionality to enable a CMS vendor to be placed into production within the current environment. The project has already begun and is mobilizing two distinct subprojects in order to achieve the vision described above. These two subprojects are:

- INH Middleware/ESB Subproject.
- INH Enterprise Data Repository Subproject.

These two teams are heavily leveraging prior integration work already completed and are developing a cohesive infrastructure to share information between systems. At the time a new CMS is brought into production, the system is envisioned to include the following components:



As depicted above, the INH will leverage approximately 60 of the previously XML/NIEM-enabled transactions inbound to the JIS, which were developed under the SCOMIS Data Exchange (SCDX) project, and it will add another 15 messages.

A series of “Get” messages will also be developed in order to externalize access to centralized CMS information, which can be called by any number of systems and provide a consolidated view of key data across the state (e.g., warrants, protection orders, persons).

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In the short term, in order to centralize the data from various CMSs into a single repository, simple database synchronization technology will be employed, such as ETL or another similar synchronization and transformation technique.