

Colorado Trusted Interoperability Platform Technical Specifications

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Abstract

This document provides information that all interoperability platform participants should review. Information includes an overview and explanation of the proposed initial data exchange and report submission processes for participants. The exchange of the custodial data will allow jails to use a web service to contact a data broker, which will in turn query all connected jails. This process will return an ordered list of health and safety alerts and other custodial data for use by jail intake to raise awareness around any concerns or needs that should be met for a new person coming into custody to avoid problems that may arise from being uninformed. The report submission process involves a report repository created by the Office of Information Technology (OIT) for the submission of participating jails' quarterly statutory report to the Colorado Department of Public Safety (CDPS). Rather than jails submitting a web form to CDPS, this new process will accomplish submission through an application linked to the jail management system (JMS). Once fully developed, the system should provide an opportunity to pre-populate many fields within the quarterly report from the data source (JMS), provide a mechanism for review, editing, and validation of the report, format it into a CSV, and send it to a secure (SFTP) location. Automation of the statutory reports is expected to save staff hours in work demand to compile these reports at each jail and promote reporting consistency and accuracy.

Questions? Please contact CTIP Project Manager, Dr. Alexis Harper - alexis.harper@state.co.us

Colorado Trusted Interoperability Platform (CTIP) Project Summary

Improving health and safety outcomes through the exchange of information and enhanced record accuracy

[CTIP Project Website](#)

The development of a capacity for the secure sharing of health and safety information between jails and other criminal justice partners in the State of Colorado can improve health and safety outcomes for justice-involved individuals and the staff who serve and help people during and after incarceration.

Problems to Solve, Opportunities to Realize

The criminal justice system population has higher medical and mental health acuity levels than the general population.

The lack of exchange of historical and current physical and mental health information across justice entities and community providers creates delays in services that pose serious health and safety risks for individuals, first responders, and justice professionals who manage and ensure access to treatment.

Criminal justice system agencies often do not have resources to identify and treat individuals under their supervision. Inefficient processes to re-assess needs and re-establish treatment result in destabilizing impacts to individuals and soaring healthcare costs.

These problems persist when information does not follow an individual who may cycle in and out of incarceration and the community. Creating a mechanism for transferring information as an individual transitions through these cycles can help break these cycles and promote long-term stability.

Project Scope

Building a trusted interoperability information exchange will connect County Jails across Colorado to the Colorado Integrated Criminal Justice Information System

- Establishes participating Jails as a new member to CICJIS with existing members including: Colorado Courts, Colorado Departments of Public Safety, Human Services, Corrections, and the Colorado District Attorney's Council
 - Jail membership will be limited to the specifics of the participation agreement signed by jails
- Funded through several federal grant programs and legislative authority
- Provides jails an opportunity to improve safety, security, and health of staff and inmates
- Provides other CICJIS members an opportunity to verify jail detention status of justice involved individuals, and improve reporting, security, management, and programming needs
- Allows agencies to control access to the sensitive information and creates options for direct data transfers
- Overall improvement of criminal justice and health outcomes through information sharing and continuity of care

Initial Use Cases

The platform helps criminal justice system partners in several ways.

- Custodial Data (Jail to Jail)
 - Upon booking or transfer the intake processor can request a report on health and safety concerns from jails that previously held the inmate.
 - Automation reduces the workload for staff during intake by informing on the need to place alerts, set up appropriate care, and have resources in place for successful transition. Automation reduces workload for this data gathering.
- Statutory Reporting Data (Jail to CDPS)
 - Quarterly jail reporting requirements set forth in [HB19-1297](#) currently requires manual data entry.
 - Enabling a software and API-driven process can automate this task. At runtime a jail-defined process gathers the data, formats it, and sends it to the state, reducing several manual steps and improving consistency.
- Failure to Appear (Jail to Judicial)
 - When an inmate fails to appear, the courts have no way of knowing if they are incarcerated.
 - Querying across jails allows the court to quickly find out if an individual is in custody. This reduces the workload from hours to seconds and prevents unnecessary warrants.
 - Research and planning to meet the needs of this use case has determined that a resource already exists to search the in-custody status of individuals in Colorado Jails. CTIP recommends courts utilize the VINE Victim Notification Network. VINE is the nation's most reliable and confidential source for updated custody status and criminal case information. [Here is a link to the Colorado VINE search form](#)
- Release Data (Jail to Judicial)
 - Courts are not often notified when an individual has been released from custody and if their sentence has been completed. This frequently results in the continuation of other sentencing conditions, such as protection orders, that should have otherwise been vacated. This can unfortunately result in further and unnecessary CJ involvement for the individual and additional system-wide demands.
 - If the subscribed jails can provide courts with release information, the courts can then address other sentencing considerations for more efficient court processes.

Project Progress

During 2023-2024, our team worked to develop solutions to integrate four primary pilot jails (jail management system). These pilots were fully integrated and exchanging real-time data in Spring 2025.

- Arapahoe (Central Square - Jail 5)
- Broomfield (New World)
- Denver (ATIMS)

- Moffat (EFORCE)

These jails were selected because of their geographical location, capacity, inmate population, jail management system vendor, and health information management processes.

Future efforts will add jails to the CICJIS infrastructure. Benefits to other Colorado Counties who would like to join the interoperability information exchange in 2024 include:

- Availability of grant funds to support process for connecting jails through CICJIS
 - The Spring 2024 grant application resulted in 15 additional jails being awarded funds to integrate with CTIP! (More info to come soon!)
- Initial development for infrastructure is already accomplished
- Once full proof of concept is established, more participating jails means higher likelihood of receiving helpful information
 - Once fully integrated, the 15 participating jails will encompass about 40% of the State of Colorado's jail incarcerated population.

Interested in becoming a participating jail?

CDPS offered a grant opportunity for jails to apply for funds to support their onboarding and integration to the platform in Spring 2024. The grant award period will run from December 1, 2024 through June 30, 2026, giving grant awarded jails over 18 months to work with CDPS and manage the integration process.

Future funding opportunities to integrate additional jails have not yet been determined, but updates will be provided as more information becomes available. If your agency is interested in participating in the future, a questionnaire utilized in the application period is still available for review. The document highlights general considerations to make as you begin reviewing technical specifications for integration to CTIP: [Questions for Participant Integration](#).

DCJ can provide technical assistance to jails that need help to determine costs, technology, and data requirements for integration to CTIP. Some costs for specific JMS and/or solution components have already been estimated. Jails are encouraged to discuss technical requirements and estimate potential costs with their IT staff and JMS or other contracted vendors for solution development and deployment.

Technical Documentation for Project Participation

Data Definitions

The link below provides access to several spreadsheets (review individual tabs) that outline the definitions for terms included in this project's materials, as well as lists of the Custodial and Statutory fields requested to be exchanged through this platform to meet the use cases as outlined.

[Colorado Trusted Interoperability Platform Data Definitions and Fields for Exchange](#)

Any information not currently available within a participant's jail management system (JMS) is encouraged to be added for exchange availability.

Workflow

Current and Future States

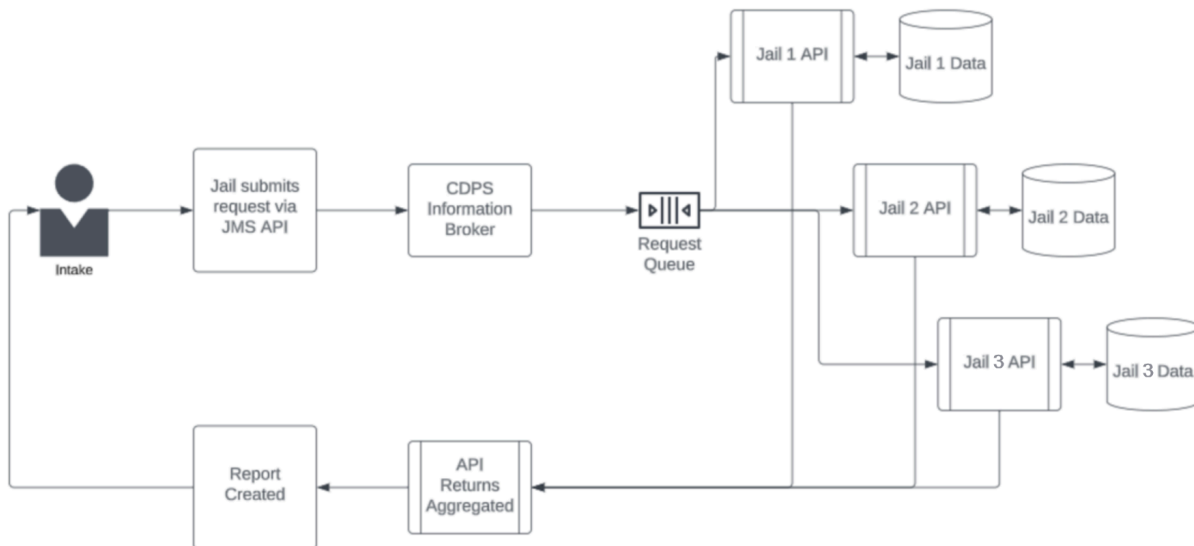
Demonstrating Improved Efficiency:

The current process by which criminal justice agencies exchange information is time consuming and does not promote safety, security, or a continuum of care and treatment

- **Custodial Data (Jail to Jail)**
 - **Current:** Jails call or fax one another if they are aware another jail has specific inmate information, but requests for information must be specifically directed, meaning a jail must know where to send a request and then await a response.
 - **Future:** A jail will be able to query all jails participating in the interoperability platform for certain health and safety alerts to optimize the intake, classification, and housing placement processes. This helps staff be more immediately aware of inmate needs to prevent serious health and safety crises.
- **Statutory Reporting Data (Jail to CDPS)**
 - **Current:** Jails are required by statute to submit quarterly reports to the State which reflect specifically defined metrics. The process for generating and submitting the report manually is cumbersome and demanding for jail staff.
 - **Future:** Connecting to a jail's management system and being able to automatically generate a report for the jail's review and submission of the required metrics to the State not only saves staff time, but also promotes standardization of reporting requirements and data across jails.
- **Failure to Appear (Jail to Judicial)**
 - **Current:** Courts are often unable to verify if an individual has failed to appear for a court hearing due to being in custody. This frequently results in the release of a warrant for the individual, creating additional individual and system-wide demands.
 - **Future:** Courts will be able to query jails to determine if an individual who has failed to appear is currently incarcerated, allowing for a more appropriate follow-up protocol than a warrant for failure to appear. CTIP recommends courts utilize the VINE Victim Notification Network. VINE is the nation's most reliable and confidential source for updated custody status and criminal case information. The link will open to the Colorado VINE search form: <https://vinelink.vineapps.com/search/CO/Person>

This workflow chart (Fig. 1) demonstrates the Custodial Data exchange use case, but the flow of information would be the same for the Statutory Reporting use case, where the recipient would be CDPS, rather than Intake

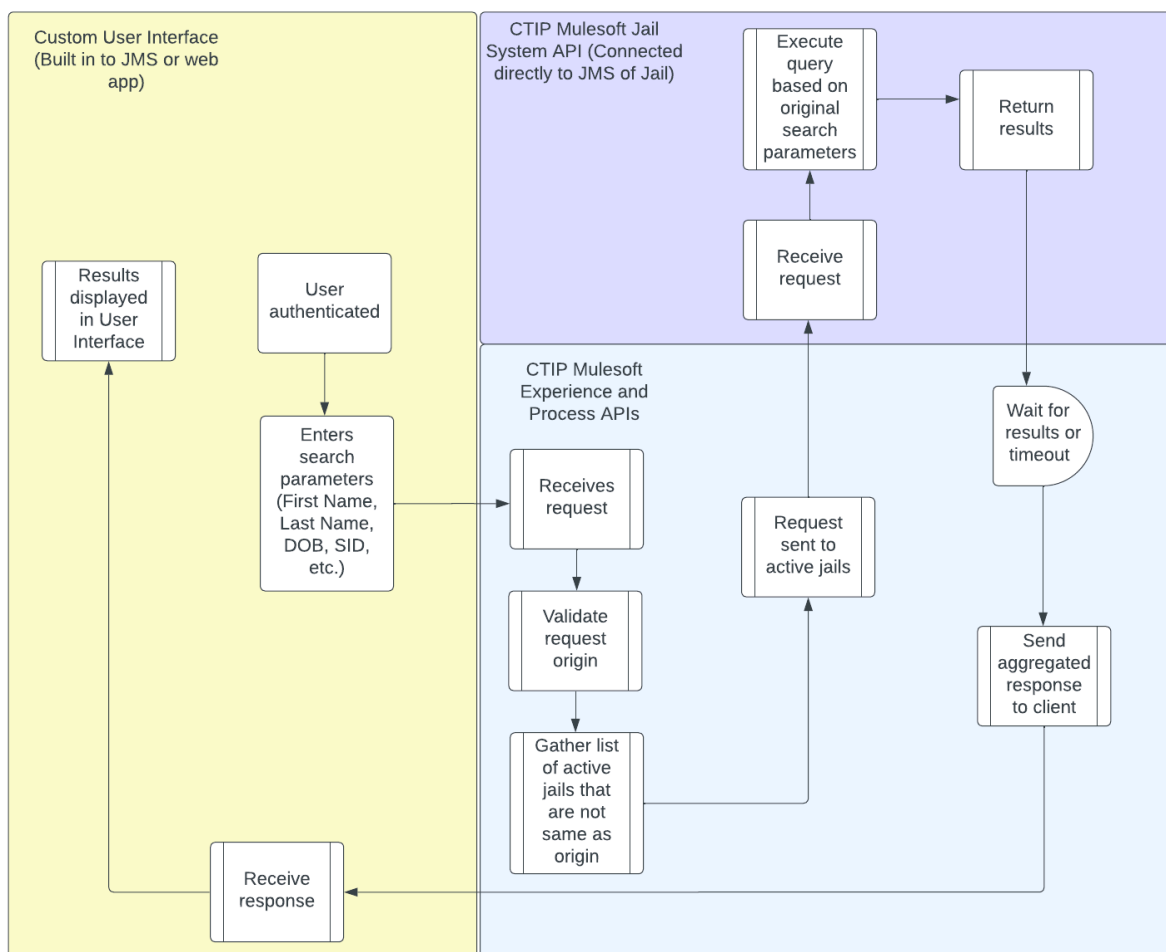
Figure 1.



- Any number of jails can participate
- Access to the jails exchange platform can be managed through a webportal, JMS application interface add-on, or individually developed application
- The Mulesoft APIs are deployed to the GovCloud FedRAMP compliant platform, and perform as the data broker that orchestrates the data search and aggregation; APIs implement CJIS level security standards
- Custodial data requests will be submitted by entering unique inmate identifying information (first name, last name, date of birth (DOB), inmate state identification number (SID)) to query for a potential match among other participating jails, which will return the formulated report
- Custodial data returned will not be stored; reports are read-only

The diagram below illustrates a more detailed flow of how the Custodial data queries will be executed.

Figure 2.



Proposed Integration Solutions

Information for Jails Working with their JMS Vendor to Develop a Solution

If your jail's management system is currently web service (API) enabled, your JMS vendor is likely to be able to assist in meeting the requirements for integrating to the platform.

Below are a few considerations for utilizing an API.

Please review this [Sample Scope of Work jails working with their JMS vendors](#). This should help to establish a cost estimate for solution development and deployment.

Information for Jails with JMS that is API enabled

- The Jail utilizes a JMS that is web service (API) enabled.

- The API has functionality to retrieve historical custodial data about former inmates based on query parameters: (first name, last name, DOB, and SID).
- A VPN tunnel between OIT and the county may be necessary so that OIT may securely communicate with the data broker.
- If the JMS has an API but the API's functionality does not meet the requirements needed to query inmate data then the JMS vendor will need to have the capacity to develop the additional features to the API.

Information for Jails Working Independently to Develop a Solution

For jails who require the development and deployment of an API solution outside of their JMS or that cannot be accomplished by their JMS vendor, below are some suggestions and considerations for how to accomplish integrating to the platform.

If the JMS doesn't provide a web service, then an external web service, or data broker, must be developed. The data broker needs to have the functionality to query the JMS for the fields listed in the use cases. A VPN tunnel between OIT and the county may be necessary so that OIT may securely communicate with the data broker.

The development would likely require the following:

- Provisioning a replicant of the live JMS database
 - (Disclaimer: A read-only replicant of the database might be required if an agency has concerns regarding the degradation of performance due to anticipated load; the anticipated load, if all counties in the State of Colorado are participating in the platform exchange, would be estimated up to 500 queries per day)
- Developing a data broker that can read and execute queries against the live or replicant database
- Exposing the data broker as a RESTful API

User Interface for Data Exchange (web application)

If your JMS vendor does not provide an interface within the JMS to submit queries and reports, then the following is a suggested solution to develop a custom front-end client application to serve as a user interface to the CICJIS Data Exchange.

CDPS is working with a vendor to develop a reusable Web Interface (Custom UI) that can be configured to serve any county that cannot extend their JMS to incorporate custom user interfaces. The web application will allow a user to authenticate against the local jail authority then make queries against the CICJIS Data Exchange. Key functionality includes authentication, role-based authorization, user flow relating to login and search processes, and visualization of results returned from the CICJIS Data Exchange.

The implementation of a reusable API Layer will allow the Custom UI to access the CICJIS Data Exchange. The vendor will construct a reusable API layer configured to grant authorized users the capability to query the CICJIS Data Exchange from custom UI's. The overall objective is the development of a reusable API framework that may be configured and deployed by jails to support implementation of the Custom UI in counties where needed.

This work is expected to be completed in 2024 to be utilized by any grant awarded jails when they begin work to integrate for participation in the platform.

An example of the web application to demonstrate how custodial reports will be queried and displayed (example uses mock data) can be viewed here: [Custodial Data Example Display in Web Application](#)

An explanation for how the Web Interface will be utilized for the Custodial and Statutory use cases is provided below:

The Custodial Reporting use case can be utilized by jails needing to query other jails for the health and safety information. A jail would access the user interface to search the platform based on first name, last name, DOB, and SID, and view the returned results if a match is provided by another participating jail.

The Statutory Reporting use case offers jails the capacity to accomplish quarterly report submission through an application linked to the jail management system (JMS), rather than jails submitting a web form to CDPS. Once fully developed, the system should provide (other features beyond submission) an opportunity to prepopulate many fields within the quarterly report from the data source (JMS), provide a mechanism for review, editing, and validation of the report, format it into a CSV, and send it to a secure (SFTP) location.

Security and Data Protection Information

- Jails Exchange APIs are hosted in CJIS compliant Anypoint GovCloud
- APIs implement multiple Anypoint security policies (IP restrictions, OAuth tokens, JSON threat protection, rate limiting, etc)
- MuleSoft Government Cloud meets all FedRAMP security and compliance standards
- FIPS 140-2 compliance for protecting sensitive information
- Transport Layer Security (TLS) 1.2 encryption. We also have the ability to add/remove any cipher suites.
- IT staff supporting the solution are CJIS certified (CDPS and / or DOC background checks)
- Jails Exchange does not store any inmate or individual level data. The results of queries are also not saved
- Access to the Jails Exchange platform is restricted to authorized personnel
- Audit logs to see who is attempting to make queries to the system.

Disclaimers, Disclosures, and Participation Agreement

Disclaimers

Participants acknowledge that in order to be considered for onboarding to the Colorado Trusted Interoperability Platform, the following activities are required:

- Accept the CICJIS participation agreement (required); Your agency and attorneys must review this document and determine the appropriate representative to sign an official DocuSign;
- Revise jail management system to allow for responses to queries regarding persons who are currently or have been previously incarcerated in their jail (required);

- Integrate the county jail's data systems with the Colorado Integrated Criminal Justice Information System (CICJIS) (required);
- Review and agree to develop a solution that meets the requirements of the interoperability platform as developed (requirements reviewed within this document)

It is the responsibility of the recipient of query reports to review and reasonably validate that the information received is reflective of the individual whom they were seeking to query, and the report match is accurate before applying the information for the management of the individual. If more specific information about an alert is needed, the querier should contact the reporting agency for more detailed documentation pertaining to alerts provided in a custodial report.

Responses are limited to include only information provided by participants - information returned may not be exhaustive, as jails not connected to participate in the interoperability platform may have information that is not exchanged due to not being connected for exchange. Additionally, the platform is being developed to provide an error response if a participating JMS is temporarily unavailable, but it may require the resubmission of a query or contacting a jail who could not provide a response to obtain any necessary data if the query cannot be completed.

Maintenance/Costs to Participants

While initial costs for onboarding and integrating with the Interoperability Platform are covered by grant funds, any annual costs and staff hours for maintaining operation of platform requirements is the responsibility of the participant. These costs will vary based on your solution needs and may or may not require support from your JMS vendor.

Much of the software utilized within the proposed solutions for integration is open source software, which should help limit costs to participants developing solutions outside of their JMS interface. Participants should consider the costs for maintaining any hardware necessary, such as servers, to accomplish integration.

Please keep in mind that the potential cost savings of participating in the Interoperability Platform may help mitigate any operating costs. Saving staff time through intake and reporting processes, as well as the capacity for reducing costly health and safety situations through information awareness are overarching benefits to participation that are expected to save participating agencies money and liability.

Any changes in legislative reporting requirements must be managed by the participant to be included in the statutory reporting use case. This includes but is not limited to the addition of other metrics or fields to be included in quarterly reports, mapping to fields within the JMS to be queried by the data broker, updating fields to meet any changes in metrics definitions, specifying demographic distribution of metrics, or other data collection and reporting mandates. The Division of Criminal Justice will collaborate with jails, JMS vendors, and OIT to ensure there is sufficient time to make these changes.

Disclosures

OIT will not be able to support any solution where the responsibility of county / JMS end user authentication and authorization to use this exchange would be placed onto OIT; for Jails that do not have API capabilities, the end user authentication is the responsibility of the individual JMS.

Participation Agreement

Applicants must acknowledge that any funding is conditioned by agreement to accept the CICJIS participation agreement. Review of this document by your City/County Attorney is encouraged in advance of starting integration efforts.

[CICJIS Participation Agreement](#)